

SHARP 19U-M100 SERVICE MANUAL

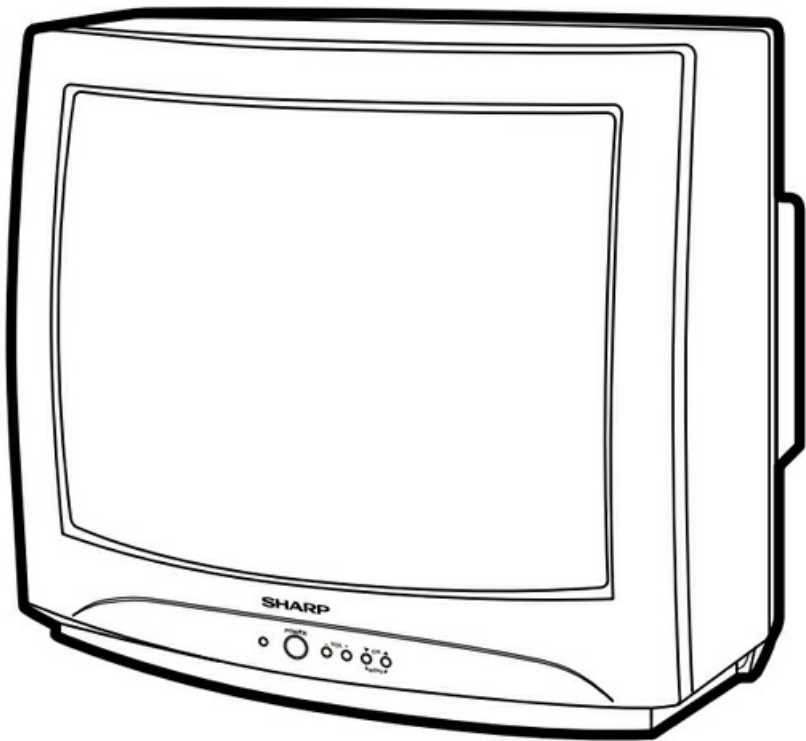
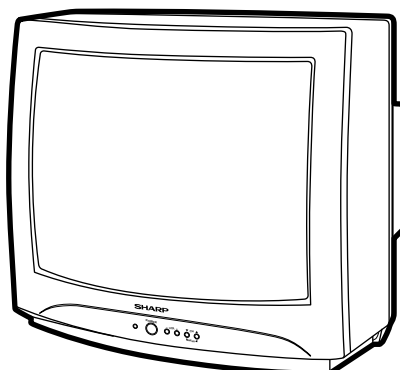


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SHARP SERVICE MANUAL

S12E719U-M100



COLOR TELEVISION

Chassis No. SN-010

19U-M100, 19U-M100S MODELS CU19M10

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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ELECTRICAL SPECIFICATIONS

POWER INPUT	AC 120 V, 60 Hz
POWER RATING	69 W
PICTURE SIZE	1,194cm ² (185sq inch)
CONVERGENCE	Magnetic
SWEEP DEFLECTION	Magnetic
FOCUS	Hi-Bi-Potential Electrostatic
INTERMEDIATE FREQUENCIES	
Picture IF Carrier Frequency	45.75 MHz
Sound IF Carrier Frequency	41.25 MHz
Color Sub-Carrier Frequency	42.17 MHz
	(Nominal)
AUDIO POWER	
OUTPUT RATING	1 W (RMS)

SPEAKER	
SIZE	8 cm (Round)
VOICE COIL IMPEDANCE	32 ohm at 400 Hz
ANTENNA INPUT IMPEDANCE	
VHF/UHF	75 ohm Unbalanced
TUNING RANGES	
VHF-Channels	2 thru 13
UHF-Channels	14 thru 69
CATV Channels	1 thru 125
	(EIA, Channel Plan U.S.A.)

Specifications are subject to change without prior notice.

SHARP CORPORATION

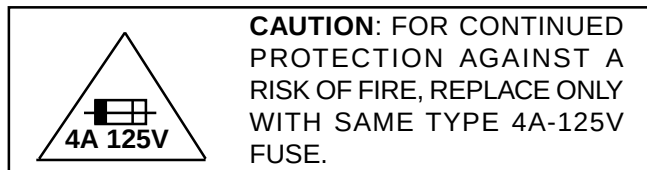
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IMPORTANT SERVICE SAFETY PRECAUTION

- **Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:**

WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.
3. Semiconductor heat sinks are potential shock hazards when the chassis is operating.
4. The chassis in this receiver has two ground systems which are separated by insulating material. The non-isolated (hot) ground system is for the B+ voltage regulator circuit and the horizontal output circuit. The isolated ground system is for the low B+ DC voltages and the secondary circuit of the high voltage transformer.
To prevent electrical shock use an isolation transformer between the line cord and power receptacle, when servicing this chassis.



SERVICING OF HIGH VOLTAGE SYSTEM AND PICTURE TUBE

When servicing the high voltage system, remove the static charge by connecting a 10k ohm resistor in series with an insulated wire (such as a test probe) between the picture tube ground and the anode lead. (AC line cord should be disconnected from AC outlet.)

1. Picture tube in this receiver employs integral implosion protection.
2. Replace with tube of the same type number for continued safety.
3. Do not lift picture tube by the neck.
4. Handle the picture tube only when wearing shatterproof goggles and after discharging the high voltage anode completely.

X-RADIATION AND HIGH VOLTAGE LIMITS

1. Be sure all service personnel are aware of the procedures and instructions covering X-radiation. The only potential source of X-ray in current solid state TV receivers is the picture tube. However, the picture tube does not emit measurable X-Ray radiation, if the high voltage is as specified in the "High Voltage Check" instructions.
It is only when high voltage is excessive that X-radiation is capable of penetrating the shell of the picture tube including the lead in the glass material. The important precaution is to keep the high voltage below the maximum level specified.
2. It is essential that servicemen have available at all times an accurate high voltage meter.
The calibration of this meter should be checked periodically.
3. High voltage should always be kept at the rated value -no higher. Operation at higher voltages may cause a failure of the picture tube or high voltage circuitry and;also, under certain conditions, may produce radiation in exceeding of desirable levels.
4. When the high voltage regulator is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be tested while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly.
5. Do not use a picture tube other than that specified or make unrecommended circuit modifications to the high voltage circuitry.
6. When troubleshooting and taking test measurements on a receiver with excessive high voltage, avoid being unnecessarily close to the receiver.
Do not operate the receiver longer than is necessary to locate the cause of excessive voltage.

IMPORTANT SERVICE SAFETY PRECAUTION

(Continued)

BEFORE RETURNING THE RECEIVER

(Fire & Shock Hazard)

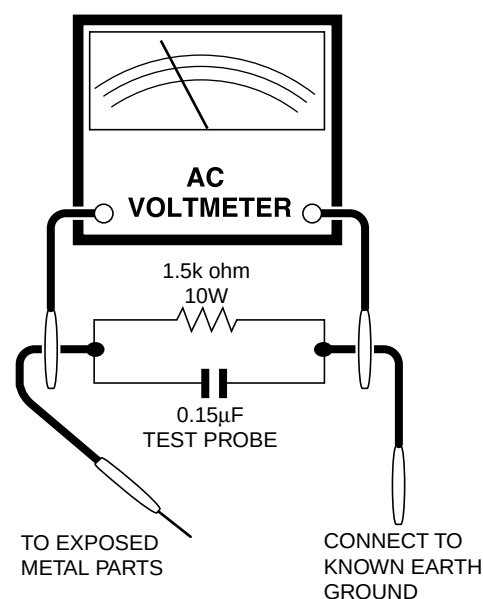
Before returning the receiver to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the receiver.
2. Inspect all protective devices such as non-metallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacity networks, mechanical insulators, etc.
3. To be sure that no shock hazard exists, check for leakage current in the following manner.
 - Plug the AC cord directly into a 120 volt AC outlet, (Do not use an isolation transformer for this test).
 - Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15 μ F capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to earth ground.
 - Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity to measure the AC voltage drop across the resistor.

- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.

All checks must be repeated with the AC line cord plug connection reversed. (If necessary, a non-polarized adapter plug must be used only for the purpose of completing these check.)

Any current measured must not exceed 0.5 milliamp. Any measurements not within the limits outlined above indicate of a potential shock hazard and corrective action must be taken before returning the instrument to the customer.



SAFETY NOTICE

Many electrical and mechanical parts in television receivers have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.

Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" and shaded areas in the Replacement Parts Lists and Schematic Diagrams.

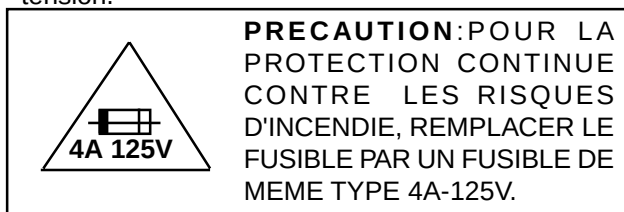
For continued protection, replacement parts must be identical to those used in the original circuit. The use of substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire, X-radiation or other hazards.

PRECAUTIONS A PRENDRE LORS DE LA REPARATION

- **Ne peut effectuer la réparation qu' un technicien spécialisé qui s'est parfaitement accoutumé à toute vérification de sécurité et aux conseils suivants.**

AVERTISSEMENT

1. N'entreprendre aucune modification de tout circuit. C'est dangereux.
2. Débrancher le récepteur avant toute réparation.
3. Les déversoirs thermiques à semi-conducteurs peuvent présenter un danger de choc électrique lorsque le récepteur est en marche.
4. Le châssis de ce récepteur a deux systèmes de mise à la terre qui sont séparés par un matériau isolant. Le système de mise à la terre non-isolée (chaud) est pour le circuit du régulateur de tension B+ et le circuit de sortie horizontale. Le système de mise à la terre isolé est pour les basses tensions C. C. B+ et le circuit secondaire du transformateur de haute tension.



REPARATION DU SYSTEME A HAUTE TENSION ET DU TUBE-IMAGE

Lors de la réparation de ce système, supprimer la charge statique en branchant une résistance de 10 k en série avec un fil isolé (comme une sonde d'essai) entre la mise à la terre du tube-image et le fil d'anode. (Le cordon d'alimentation doit être retiré de la prise murale.)

1. Il est à noter que le tube-image de ce récepteur est intégralement protégé contre l'implosion.
2. Par mesure de sécurité, changer le tube-image pour un tube du même numéro de type.
3. Ne pas lever le tube-image par son col.
4. Ne manipuler le tube-image qu'en portant des lunettes incassables et qu'après avoir déchargé totalement la haute tension.

LIMITES DES RADIATIONS X ET DE LA HAUTE TENSION

1. Tout le personnel réparateur doit être instruit des instructions et procédés relatifs aux radiations X. Le tube-image, seule source de rayons X dans les téléviseurs transistorisés, n'émet pourtant pas de rayons mesurables si la haute tension est maintenue à un niveau préconisé dans la section "Vérification de la haute tension". C'est seulement quand la haute tension est excessive que les rayons X peuvent entrer dans l'enveloppe du tube-image y compris le conducteur de verre. Il est important de maintenir la haute tension en-dessous du niveau spécifié.
2. Il est essentiel que le réparateur ait sous la main un voltmètre à haute tension qui doit être périodiquement étalonné.
3. La haute tension doit toujours être maintenue à la valeur de régime et pas plus haute. L'opération à des tensions plus élevées peut entraîner une panne du tube-image ou du circuit à haute tension et, dans certaines conditions, peut entraîner une radiation dépassant les niveaux prescrits.
4. Quand le régulateur à haute tension fonctionne correctement, il n'y a aucun problème de radiation X. Chaque fois qu'un châssis couleurs est réparé, la luminosité doit être examinée tout en contrôlant la haute tension à l'aide d'un voltmètre pour s'assurer que la haute tension ne dépasse pas la valeur spécifiée et qu'elle soit correctement réglée.
5. Ne pas utiliser un tube-image autre que celui spécifié et ne pas effectuer de modifications déconseillées du circuit à haute tension.
6. Lors de la recherche des pannes et des mesures d'essai sur un récepteur qui présente une haute tension excessive, éviter de s'approcher inutilement du récepteur. Ne pas faire fonctionner le récepteur plus longtemps que nécessaire pour localiser la cause de la tension excessive.

PRECAUTIONS A PRENDRE LORS DE LA REPARATION

(Suite)

VERIFICATIONS CONTRE L'INCEN-DIE ET LE CHOC ELECTRIQUE

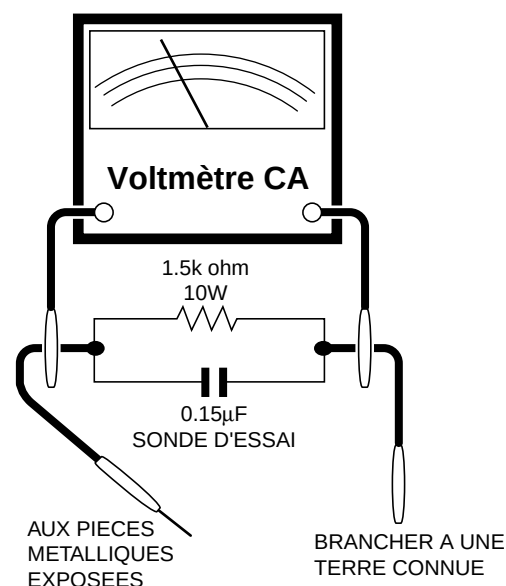
Avant de rendre le récepteur à l'utilisateur, effectuer les vérifications suivantes.

1. Inspecter tous les faisceaux de câbles pour s'assurer que les fils ne soient pas pincés ou qu'un outil ne soit pas placé entre le châssis et les autres pièces métalliques du récepteur.
2. Inspecter tous les dispositifs de protection comme les boutons de commande non-métalliques, les isolants, le dos du coffret, les couvercles ou blindages de réglage et de compartiment, les réseaux de résistance-capacité, les isolateurs mécaniques, etc.
3. S'assurer qu'il n'y ait pas de danger d'électrocution en vérifiant la fuite de courant, de la façon suivante:
 - Brancher le cordon d'alimentation directement à une prise de courant de 120V. (Ne pas utiliser de transformateur d'isolation pour cet essai).
 - A l'aide de deux fils à pinces, brancher une résistance de 1,5 k Ω 10 watts en parallèle avec un condensateur de 0,15 μ F en série avec toutes les pièces métalliques exposées du coffret et une terre connue comme une conduite électrique ou une prise de terre branchée à la terre.
 - Utiliser un voltmètre CA d'une sensibilité d'au moins 5000 Ω /V pour mesurer la chute de tension en travers de la résistance.

- Toucher avec la sonde d'essai les pièces métalliques exposées qui présentent une voie de retour au châssis (antenne, coffret métallique, tête des vis, arbres de commande et des boutons, écusson, etc.) et mesurer la chute de tension CA en-travers de la résistance.

Toutes les vérifications doivent être refaites après avoir inversé la fiche du cordon d'alimentation. (Si nécessaire, une prise d'adpatation non polarisée peut être utilisée dans le but de terminer ces vérifications.) Tous les courants mesurés ne doivent pas dépasser 0,5 mA.

Dans le cas contraire, il y a une possibilité de choc électrique qui doit être supprimée avant de rendre le récepteur au client.



AVIS POUR LA SECURITE

De nombreuses pièces, électriques et mécaniques, dans les téléviseurs présentent des caractéristiques spéciales relatives à la sécurité, qui ne sont souvent pas évidentes à vue. Le degré de protection ne peut pas être nécessairement augmentée en utilisant des pièces de remplacement étalonnées pour haute tension, puissance, etc.

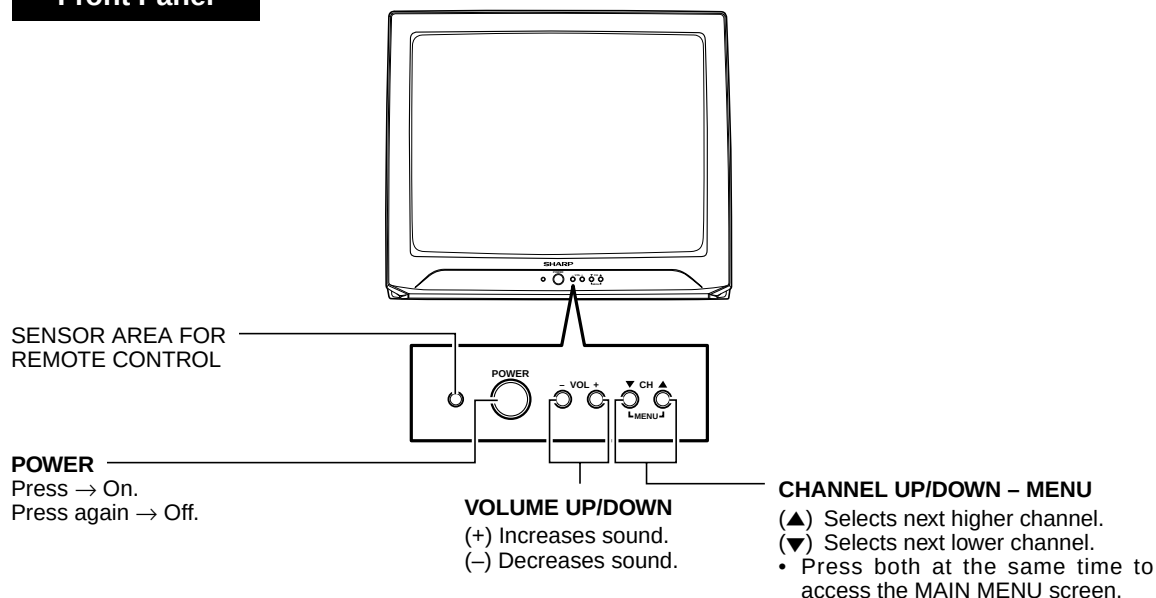
Les pièces de remplacement qui présentent ces caractéristiques sont identifiées dans ce manuel; les pièces électriques qui présentent ces particularités sont

identifiées par la marque " Δ " et hachurées dans la liste des pièces de remplacement et les diagrammes schématiques.

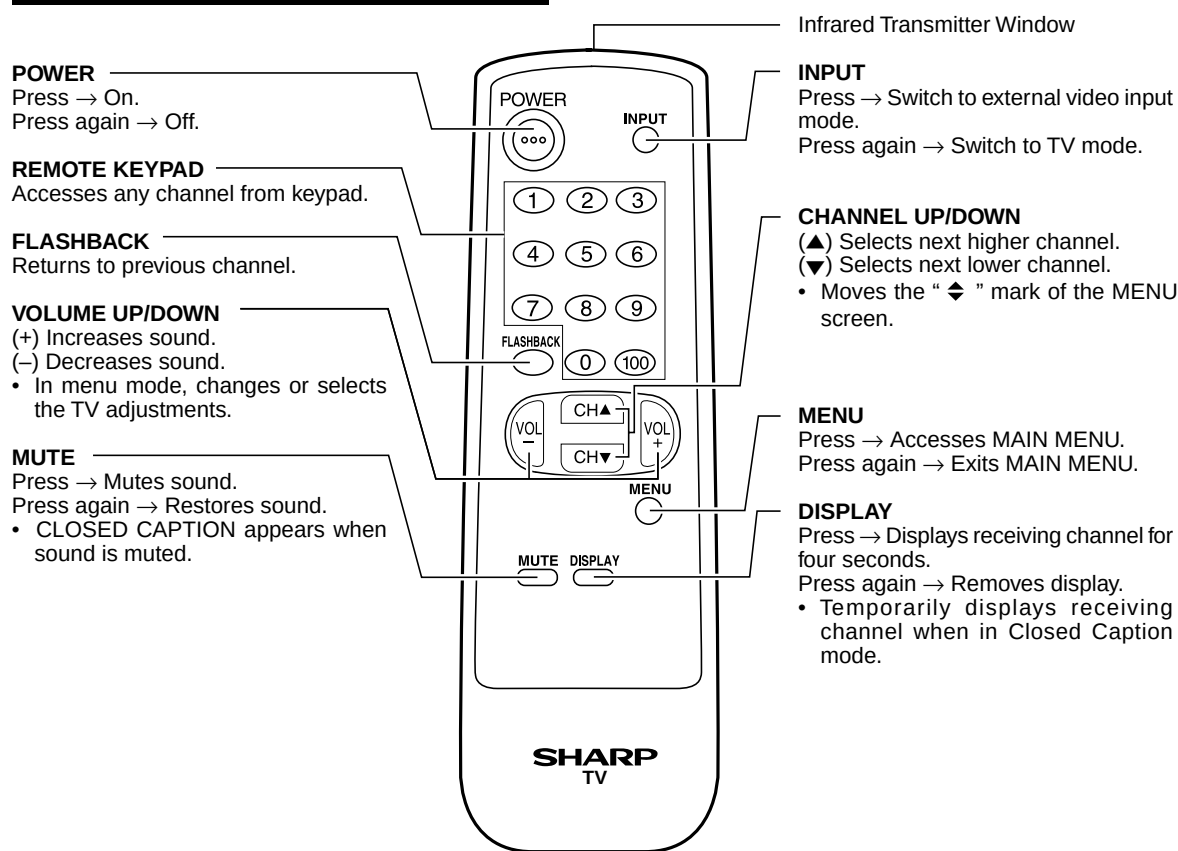
Pour assurer la protection, ces pièces doivent être identiques à celles utilisées dans le circuit d'origine. L'utilisation de pièces qui n'ont pas les mêmes caractéristiques que les pièces recommandées par l'usine, indiquées dans ce manuel, peut provoquer des électrocutions, incendies, radiations X ou autres accidents.

LOCATION OF USER'S CONTROL

Front Panel



Basic Remote Control Functions



INSTALLATION AND SERVICE INSTRUCTIONS

Note: (1) When performing any adjustments to resistor controls and transformers use non-metallic screwdrivers or TV alignment tools.

(2) Before performing adjustments, the TV set must be on at least 15 minutes.

CIRCUIT PROTECTION

The receiver is protected by a 4.0A fuse (F701), mounted on PWB-A, wired into one side of the AC line input.

X-RADIATION PROTECTOR CIRCUIT TEST

After service has been performed on the horizontal deflection system, high voltage system, B+ system, test the X-Radiation protection circuit to ascertain proper operation as follows:

1. Apply 120V AC using a variac transformer for accurate input voltage.
2. Allow for warm up and adjust all customer controls for normal picture and sound.
3. Receive a good local channel.
4. Connect a digital voltmeter to TP653 and make sure that the voltmeter reads 21.4 ± 1.5 V.
5. Apply external 27.2V DC at TP653 by using an external DC supply, TV must be shut off.
6. To reset the protector, unplug the AC cord and make a short circuit between TP651 and TP652. Now make sure that normal picture appears on the screen.
7. If the operation of the horizontal oscillator does not stop in step 5, the circuit must be repaired before the set is returned to the customer.

HIGH VOLTAGE CHECK

High voltage is not adjustable but must be checked to verify that the receiver is operating within safe and efficient design limitations as specified checks should be as follows:

1. Connect an accurate high voltage meter between ground and anode of picture tube.
2. Operate receiver for at least 15 minutes at 120V AC line voltage, with a strong air signal or a properly tuned in test signal.
3. Enter the service mode and select the service adjustment "S03" and Bus data "01" (Y-mute on).
4. The voltage should be approximately 26.0kV (at zero beam).

If a correct reading cannot be obtained, check circuitry for malfunctioning components. After the voltage test, make Y-mute off to the normal mode.

For adjustments of this model, the bus data is converted to various analog signals by the D/A converter circuit.

Note: There are still a few analog adjustments in this series such as focus and master screen voltage. Follow the steps below whenever the service adjustment is required.

To enter the service mode and exit service mode.

While pressing the Vol-up and Ch-up buttons at the sametime, plug the AC cord into a wall socket.

Now, the TV set is switched on and enters the service mode.

To exit the service mode, turn the television off by pressing the power button.

1. Service mode.

Before putting unit into the service mode, check that customer adjustments are in the normal mode. Use the reset function in the video adjustment menu to ensure customer control are in their proper (reset) position.

2. Service number selection.

In the service mode, you will see the window screen as window ①. There are 3 adjustment categories ②DEF, ③SIGNAL, ④FIX VALUE as show in **Figure A**.

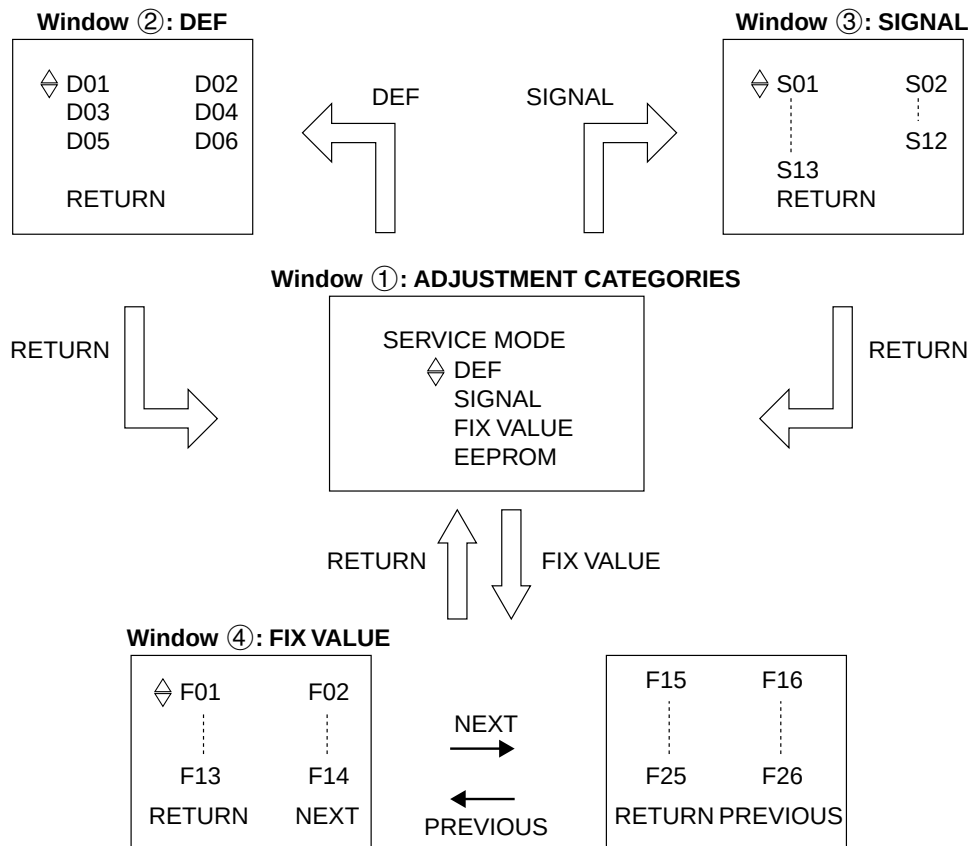


Figure A: ADJUSTMENT CATEGORIES

Press CH UP/DOWN button for selection and enter by VOL UP or VOL DOWN.
Press CH UP/DOWN button to select the adjustment item and VOL UP/DOWN to adjust the data number for each categories.

(OSD disturbance can be erased by R/C display key)

(Note: EEPROM – factory used only)

Below are the adjustments ranges and initial values for FIX VALUE category.

FIX VALUE

SERVICE POSITION	ADJUST ITEM	DATA		
		RANGE	INITIAL VALUE	(Hex)
F01	OPTION 1	00-FF	B0	B0(19U-M100/100S),A0(CU19M10)
F02	OPTION 2	00-FF	04	04
F03	E-SAVE	00-3F	23	2A
F04	TUNER SETUP	00, 01	00	00
F05	R-TONE RD	00-7F	19	03
F06	R-TONE BD	00-7F	00	7C
F07	B-TONE RD	00-7F	00	00
F08	B-TONE BD	00-7F	12	04
F09	FM LEVEL	00-1F	0C	0C
F10	AFC GAIN	00, 01	00	00
F11	G DRIVE	00, 0F	0F	0F
F12	FBT BLK SW	00, 01	01	01
F13	V COMP	00-07	07	07
F14	OSD CONT	00-07	02	00
F15	SHARPNESS	00-3F	19	19(Matsushita Tuner),11(SHARP Tuner)
F16	FLT SYS	00-03	00	00
F17	KILLER OP	00-07	04	02
F18	PRE SHOOT	00-03	03	00
F19	CORING	00-07	07	04
F20	DC REST	00-03	02	02
F21	BS START	00-03	01	01
F22	BS GAIN	00-03	01	01
F23	ABL START	00-07	00	00
F24	R/B ANGLE	00-0F	08	08
F25	H BLK R	00-07	04	03
F26	H BLK L	00-07	04	00

Table - A

Below are the ranges and initial values for each adjustment and in each categories.

DEF

SERVICE POSITION	ADJUST ITEM	DATA		ADJUSTMENT CONTENTS
		RANGE	INITIAL VALUE	
D01	H-PHASE	00-1F	0C	
D02	V-SIZE	00-7F	40	
D03	V-POSITION	00-3F	20	Must be "20"
D04	CC-POSITION	00-FF	1A	
D05	V-LINEARITY	00-1F	10	Must be "18"
D06	V-S-CORRECTION	00-1F	10	Must be "0C"

Table - B

SIGNAL

SERVICE POSITION	ADJUST ITEM	DATA		ADJUSTMENT CONTENTS
		RANGE	INITIAL VALUE	
S01	RF AGC	00-3F	14	
S02	VIDEO LEVEL	00-07	03	
S03	Y-MUTE	00-03	00	"01":Y-MUTE, "02":V-STOP&Y-MUTE "03":Activate color killer
S04	SUB BIAS	00-FF	40	Must be "30"
S05	R-BIAS	00-FF	00	
S06	G-BIAS	00-FF	00	
S07	B-BIAS	00-FF	00	
S08	R-DRIVE	00-7F	53	
S09	B-DRIVE	00-7F	53	
S10	CONTRAST	00-7F	5A	
S11	TINT	00-7F	40	
S12	COLOR	00-7F	40	
S13	BRIGHTNESS	00-7F	40	

Note: Refer to the SERVICE ADJUSTMENT for each corresponding values.

Table - C

Holding down both the Vol-up/Ch-down buttons on the TV set at service mode for more than 2 seconds will automatically write the above initial values into IC2101.

PART REPLACED	ADJUSTMENT		NOTES
	NECESSARY	UNNECESSARY	
IC2001		X	Data is stored in IC2101.
IC201	X		The adjustment is needed to compensate for characteristics of parts including IC201.
IC2101	X		Holding down both the Vol-up/Ch-down buttons on the TV set in the service mode for more than 2 seconds will automatically write the above initial values into IC2101.
CRT	X		Adjust items related to picture tube only.

Table - D

■ SERVICE ADJUSTMENT

RF AGC Adjustment

1. Receive a good local channel.
2. Enter the service mode signal category and select the service adjustment "S01".
3. Set the data value to point where no noise or beat appears.
4. Select another channel to confirm that no noise or beat appears.

Note: You have to exit the service mode first to select another channel.

Video Level (TV Det Video Level) Adjustment

1. Receive a good local channel.
2. Enter the service mode signal category and select the service adjustment "S02".
3. Set the data value to "02" first, then adjust the data in ranges 02 ± 2 step to obtain a normal contrast level.

Screen Adjustment

1. Connect to oscilloscope probe between TP855 and ground of the CRT unit.
2. Receive a good local channel.
3. Enter the service mode Signal category and set the service adjustment "S04" to step 30. Then select the service adjustment "S12" and set the data value to "00" to set the color level to the minimum level. (record the original data first). You may skip this step, if you selected a B/W picture or monoscope pattern. Set also the "S05/S06/S07" data to minimum level.
4. Select the service adjustment "S03" and set the data value to "01" to turn off the luminance signal (Y-mute).
5. Select the service adjustment "S13" and adjust the data value to obtain 2.35 volts as shown in **Figure B**.
6. Adjust the master screen control until the raster darkens to the point where raster is barely seen.
7. Adjust the service adjustment "S05" red, "S06" green and "S07" blue to obtain a good grey scale with normal white at low brightness level.
8. Select the service a adjustment "S03" and reset data to "00". Select the service adjustment "S12" and reset data to obtain normal color level.
9. Remove probe and reset the master screen control to obtain normal brightness range.

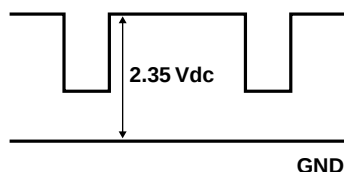


Figure B: WAVEFORM FOR SCREEN ADJUSTMENT

White Balance Adjustment

1. Receive a good local channel.
2. Select the service adjustment "S12" and set the data value to "00" to set the color level to the minimum. You may skip this step, if you selected a B/W picture or monoscope.
3. Alternately adjust the service adjustment data of "S08" and "S09" until a good grey scale with normal white is obtained.
4. Select the service adjustment "S12" and reset data to obtain normal color level.

Sub-Picture Adjustment

1. Receive a good local channel.
2. Make sure the customer picture control is set to maximum.
3. Enter the service mode and select the service adjustment "S10".
4. Adjust the data value to achieve normal contrast range.

Sub-Tint Adjustment

1. Receive a good local channel.
2. Set the customer tint control to the center of it's range.
3. Enter the service mode and select the service adjustment "S11".
4. Adjust "S11" data value to obtain normal fresh tones.

Sub-Color Adjustment

1. Receive a good local channel.
2. Make sure the customer color control is set to center position.
3. Enter the service mode and select the service adjustment "S12".
4. Adjust "S12" data value to obtain normal color level.

Sub-Brightness Adjustment

1. Receive a good local channel.
2. Make sure the customer brightness control is set to center position.
3. Enter the service mode and select the service adjustment "S13".
4. Adjust "S13" data value to obtain normal brightness level.

Vertical-Size, V-Linearity and V-S Correction Adjustments

1. Receive a good local channel.
2. Enter the service mode DEF category and select the adjustment "D02" for Vertical Size, "D05" for V-Linearity and "D06" for V-S Correction Adjustment.
3. Set in order "D05" for V-Linearity, "D06" for V-S Correction and set the data to get the best linearity.
4. Then adjust "D02" data until it become a proper vertical size.

Horizontal Position Adjustment

1. Receive a good local channel.
2. Enter the service mode DEF category and select the adjustment "D01".
3. Adjust "D01" data value to center the picture.

Vertical-Phase Adjustment

1. Receive a good local channel.
2. Enter the service mode DEF category and select the adjustment "D03".
3. Adjust "D03" bus data to get the most acceptable vertical position.

Note: The step range is 20 (032) ± 10 steps.

Caption Position Adjustment (Horizontal)

1. Receive a good local channel.
2. Enter the service mode DEF category and select the adjustment "D04".
3. A black text box will appear on the screen. (see **Figure C.** below)
4. Adjust "D04" data value to balance the text box position in the center (A=B).

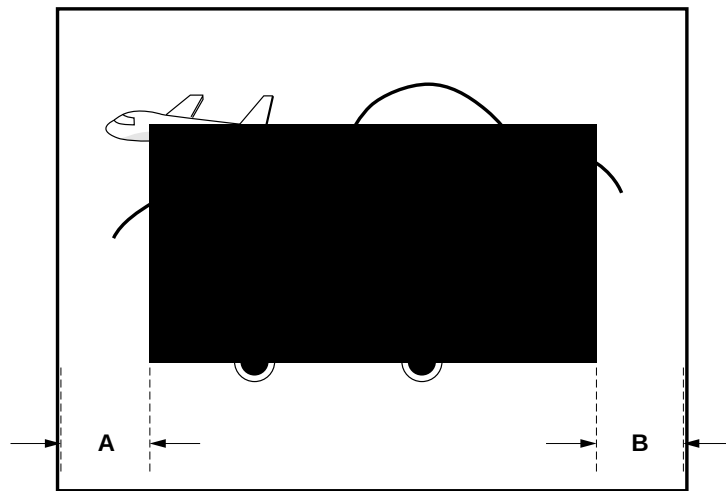
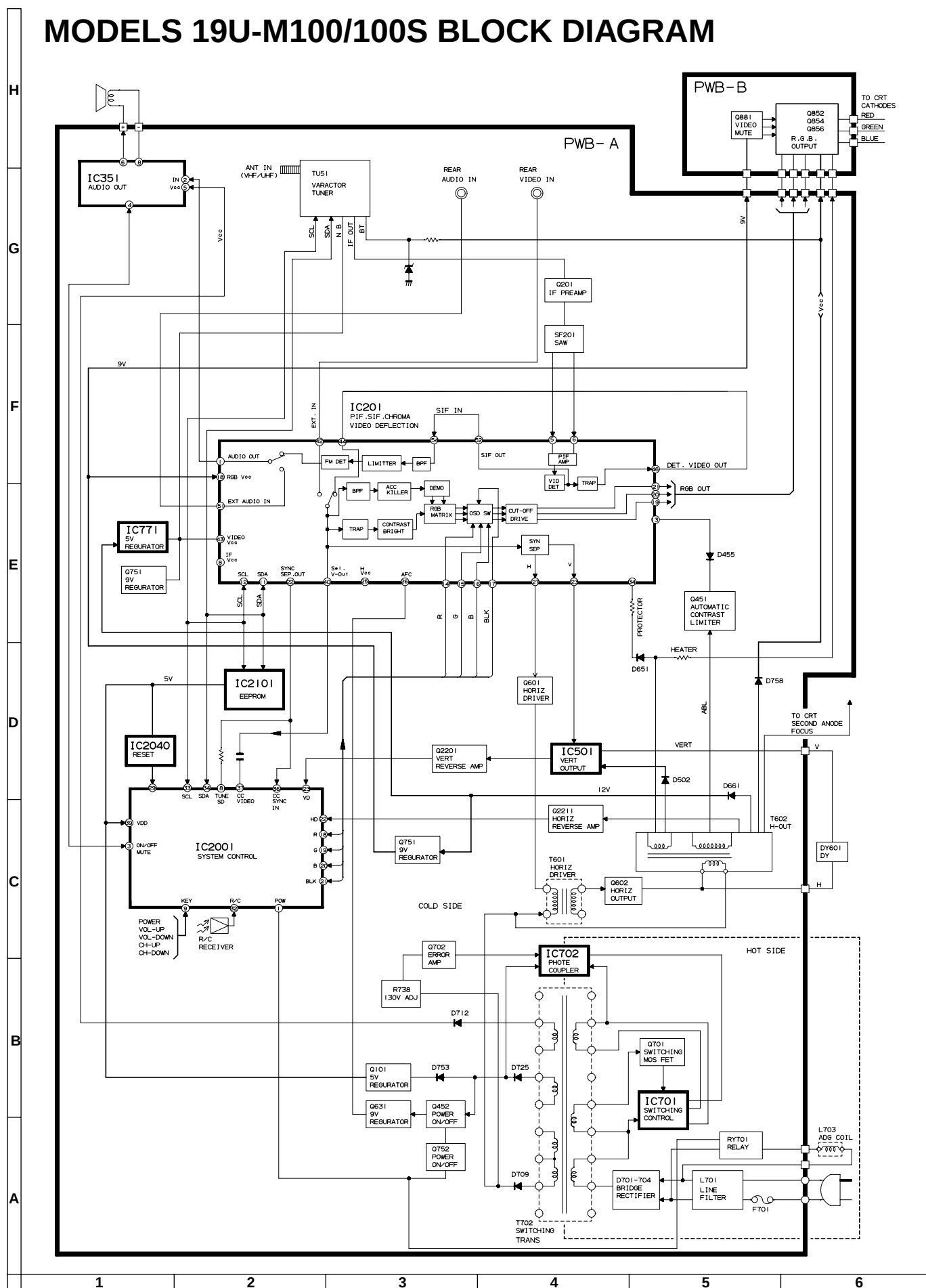


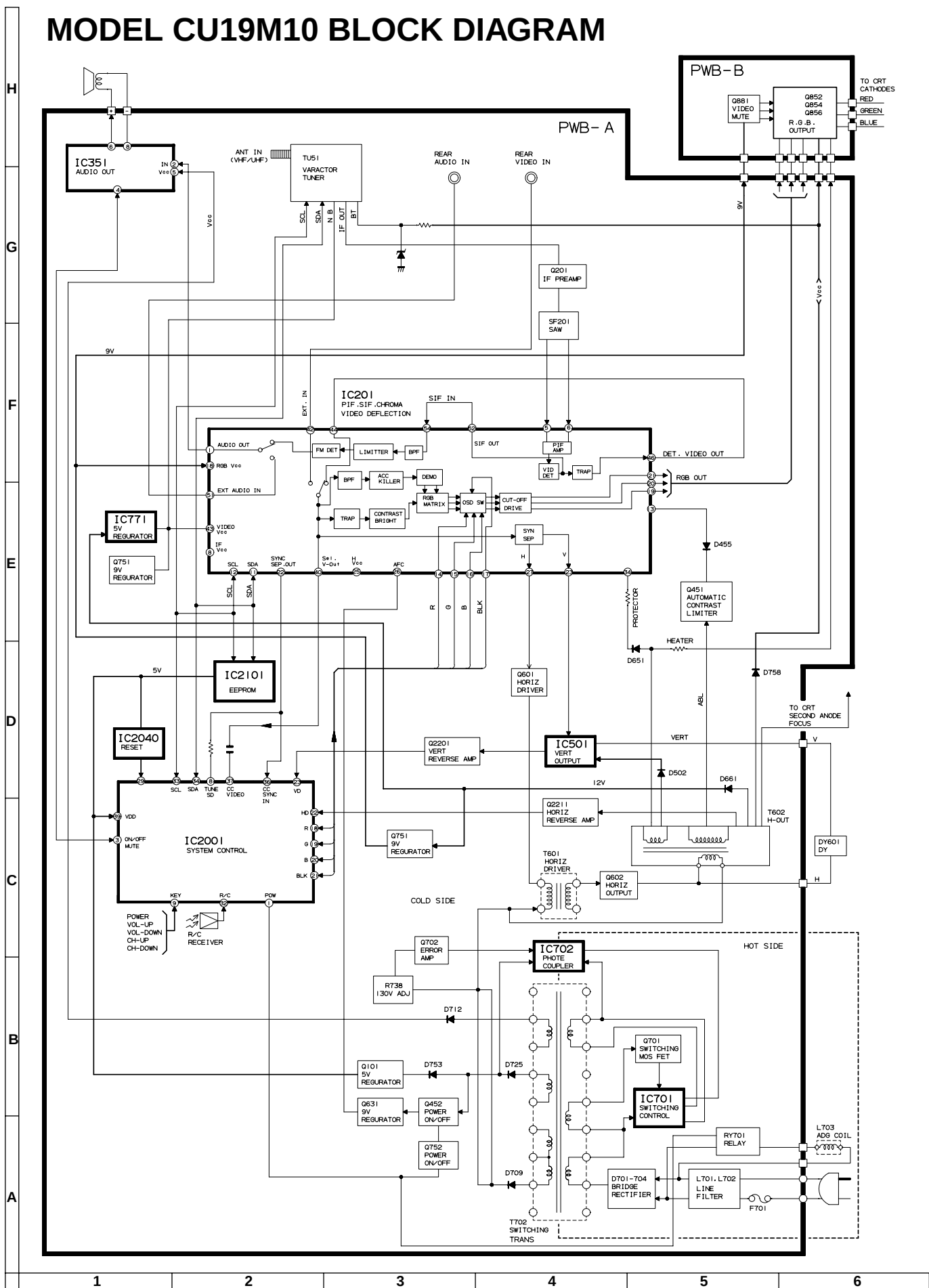
Figure C.



MODELS 19U-M100/100S BLOCK DIAGRAM



MODEL CU19M10 BLOCK DIAGRAM



DESCRIPTION OF SCHEMATIC DIAGRAM

NOTES:

1. The unit of resistance "ohm" is omitted.
($K=k\Omega=1000\Omega$, $M=M\Omega$)
2. All resistors are 1/16 watt, unless otherwise noted.
3. All capacitors are μF , unless otherwise noted.
($P=pF=\mu\mu F$)
4. (G) indicates $\pm 2\%$ tolerance may be used.
5. $\overline{\text{---}}$ indicates line isolated ground.

VOLTAGE MEASUREMENT CONDITIONS:

1. All DC voltages are measured with DVM connected between points indicated and chassis ground, line voltage set at 120V AC and all controls set for normal picture unless otherwise indicated.
2. All voltages measured with $1000\mu V$ B & W or Color signal.

WAVEFORM MEASUREMENT CONDITIONS:

1. Photographs taken on a standard gated color bar signal, the tint setting adjusted for proper color. The wave shapes at the red, green and blue cathodes of the picture tube depend on the tint, color level and picture control.
2. $\bigcirc$ indicates waveform check points (See chart, waveforms are measured from point indicated to chassis ground.)

$\triangle$ AND SHADED () COMPONENTS
= SAFETY RELATED PARTS.

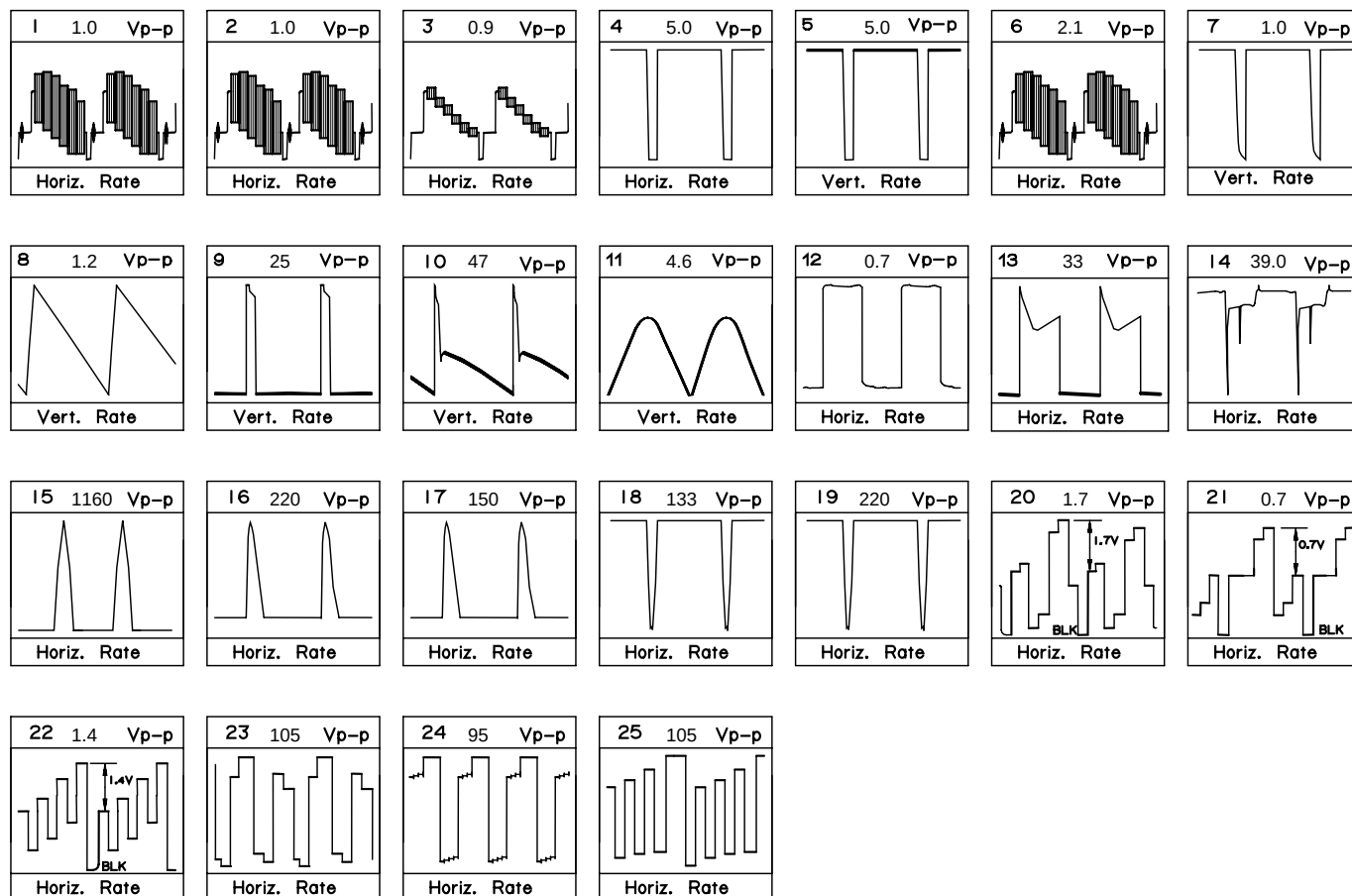
$\blacktriangle$ MARK= X-RAY RELATED PARTS.

DRGANNES MARQUES $\triangle$ ET HACHRES () :
PIECES RELATIVES A LA SECURITE.

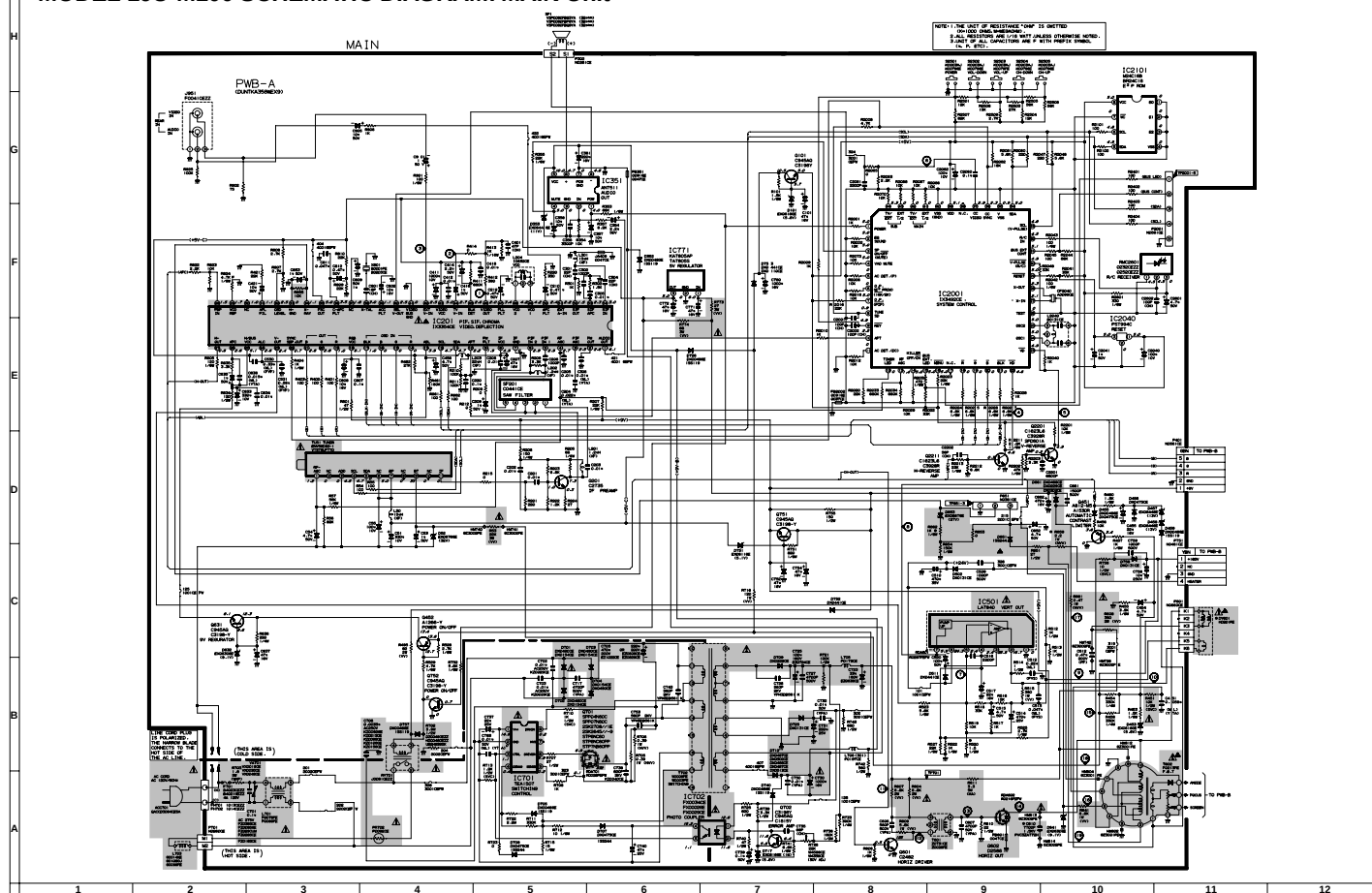
MARQUE $\blacktriangle$: PIECS RELATIVE AUX RAYONS X.

This circuit diagram is a standard one, printed circuits
may be subject to change for product improvement
without prior notice.

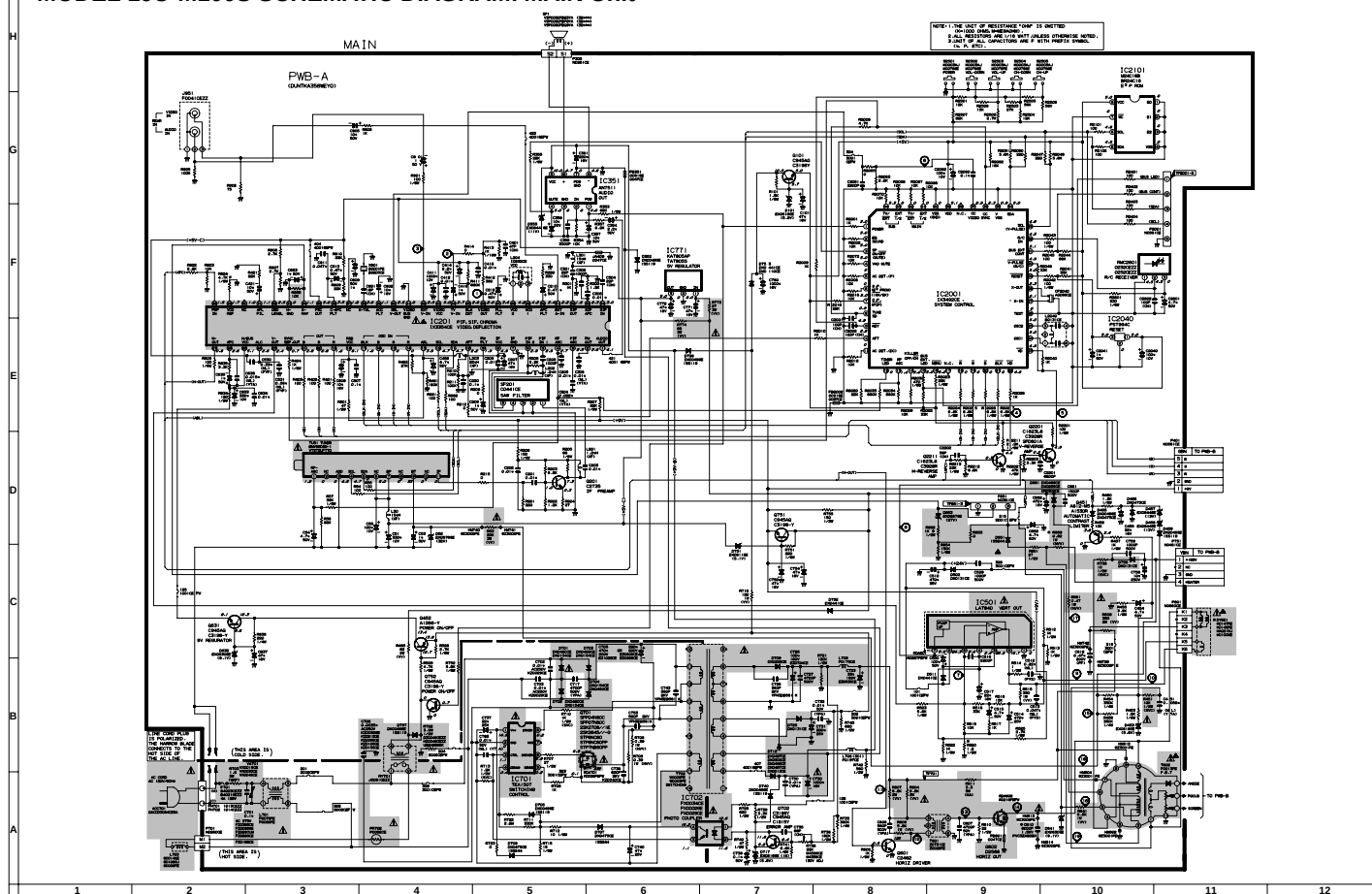
WAVEFORMS



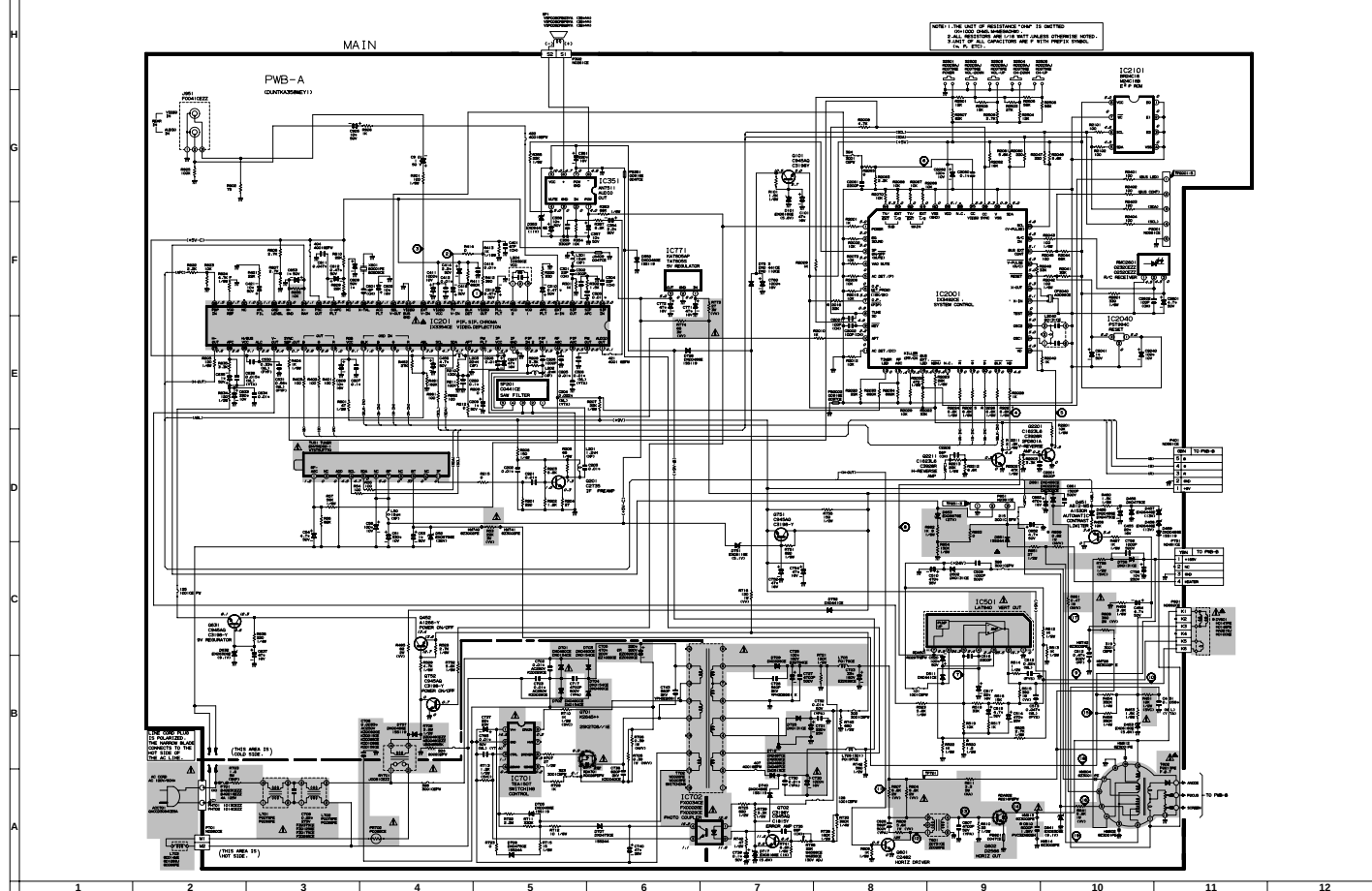
MODEL 19U-M100 SCHEMATIC DIAGRAM: MAIN Unit



MODEL 19U-M100S SCHEMATIC DIAGRAM: MAIN Unit



MODEL CU19M10 SCHEMATIC DIAGRAM: MAIN Unit



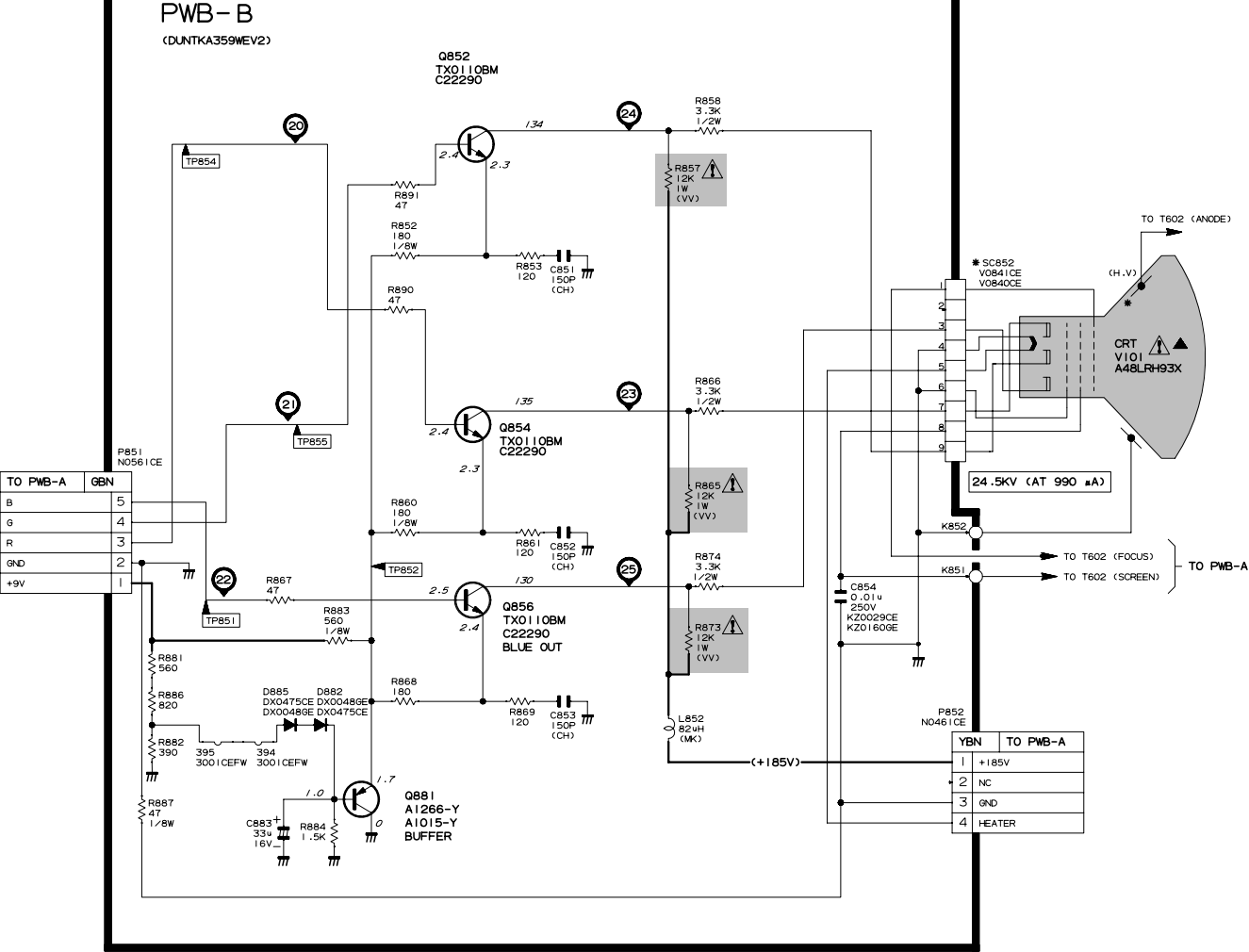
MODEL 19U-M100 SCHEMATIC DIAGRAM: CRT Unit

H
G
F
E
D
C
B
A

CRT

NOTE: 1. THE UNIT OF RESISTANCE "OHM" IS OMITTED
(K=1000 OHMS, M=MEGAOHM).
2. ALL RESISTORS ARE 1/16 WATT, UNLESS OTHERWISE NOTED.
3. UNIT OF ALL CAPACITORS ARE F WITH PREFIX SYMBOL
(u, P, ETC).

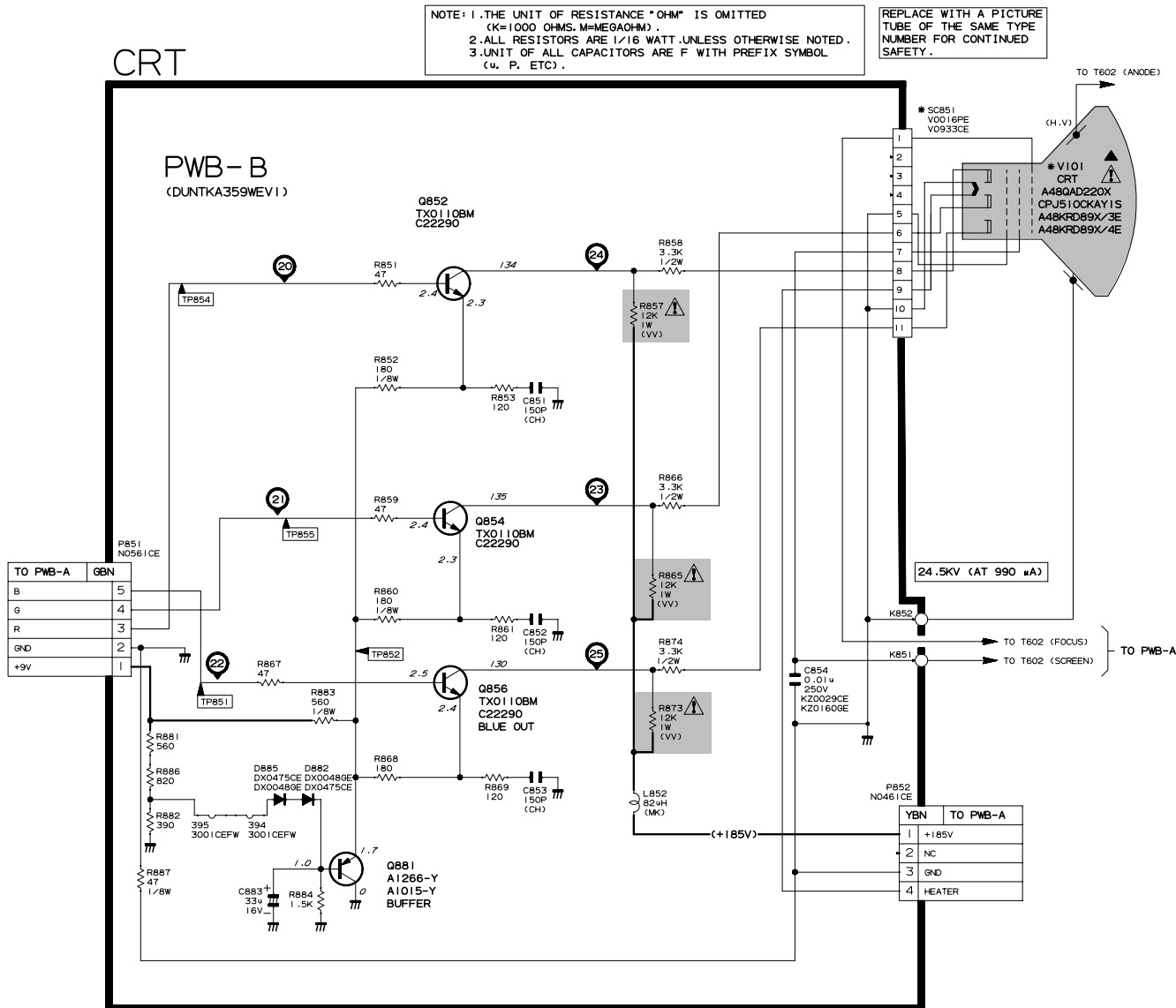
REPLACE WITH A PICTURE
TUBE OF THE SAME TYPE
NUMBER FOR CONTINUED
SAFETY.



* NOTE		CRT	DY	SC852	R659	C610	R520
COMBINATION	A48LRH93X	H0201FE	V0841CE	2.2ohm 1W	7700P (1.8KV)	1.5ohm 1/2W	

MODELS 19U-M100S, CU19M10 SCHEMATIC DIAGRAM: CRT Unit

H
G
F
E
D
C
B
A





PWB-A: MAIN Unit (Chip Parts Side)



PARTS LIST

PARTS REPLACEMENT

Replacement parts which have these special safety characteristics identified in this manual ; electrical components having such features are identified by Δ and shaded areas in the Replacement Parts Lists and Schematic Diagrams. The use of a substitute replacement part which does not have the same safety characteristic as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following information.

- | | |
|-----------------|----------------|
| 1. MODEL NUMBER | 2. REF. NO. |
| 3. PART NO. | 4. DESCRIPTION |

in **USA**: Contact your nearest SHARP Parts Distributor to order. For location of SHARP Parts Distributor, Please call Toll-Free; 1-800-BE-SHARP

★ MARK: SPARE PARTS-DELIVERY SECTION

▲ MARK: X-RAY RELATED PARTS

Ref. No.	Part No.	★	Description	Code
----------	----------	---	-------------	------

PICTURE TUBE

19U-M100

- | | | | | |
|------------------|---------------|---|-----------------|----|
| ▲ Δ V101 | VB48LRH93X/*S | J | Picture Tube | CC |
| ▲ Δ DY601 | RCiLH0201PEZZ | R | Deflection Yoke | AZ |
| ▲ L703 | RCiLG0099PEZZ | R | Degaussing Coil | AL |
| | or | | | |
| | RCiLG0108GJZZ | | | |
| | or | | | |
| | RCiLG0014MEZZ | | | |
| | LHLDW0003PEKZ | R | Wire Holder, x4 | AB |
| | LHLDW1033PEZZ | J | Holder | AA |
| | PMAGF3045CEZZ | J | Purity Magnet | AG |
| | PSPAG0017PEZZ | R | Spacer, x3 | AC |
| | QEARC1913PEZZ | R | Grounding Strap | AF |

	CRT	DY	SCB52	R659	C610	R520
COMBINATION	A48LRH93X	H0201PE	V0841CE V0840CE	2.2ohm 1W	7700P (1.8KV)	1.5ohm 1/2W

19U-M100S, CU19M10

- | | | | | |
|------------------|----------------|---|-----------------------|----|
| ▲ Δ V101 | VB48KRD89X/4E | R | CRT(DY601:HA021WJ) | CB |
| | or | | | |
| | VB48KRD89X/3E | | CRT(DY601:H0100ME) | |
| | or | | | |
| | VB48QAD220X/*S | | CRT(DY601:H0147PE) | |
| | or | | | |
| | VB510CKAY1S-S | | CRT(DY601:H0148PE) | |
| ▲ Δ DY601 | RCiLHA021WJZZ | R | DY(V101:A48KRD89X/4E) | BB |
| | or | | | |
| | RCiLH0100MEZZ | | DY(V101:A48KRD89X/3E) | |
| | or | | | |
| | RCiLH0148PEZZ | | DY(V101:CPJ510CKAY1S) | |
| | or | | | |
| | RCiLH0147PEZZ | | DY(V101:A48QAD220X) | |
| ▲ L703 | RCiLG0099PEZZ | R | Degaussing Coil | AL |
| | or | | | |
| | RCiLG0108GJZZ | | | |
| | or | | | |
| | RCiLG0014MEZZ | | | |
| | LHLDW0003PEKZ | R | Wire Holder, x4 | AB |
| | LHLDW1033PEZZ | J | Holder | AA |
| | PMAGF3046CEZZ | R | Purity Magnet | AF |

LISTE DES PIECES

CHANGE DES PIECES

Les pièces de rechange qui présentent ces caractéristiques spéciales de sécurité, sont identifiées dans ce manuel : les pièces électriques qui présentent ces particularités, sont représentées par la marque Δ et sont hachurées dans les listes de pièces et dans les diagrammes schématisés.

La substitution d'une pièce de rechange par une autre qui ne présente pas les mêmes caractéristiques de sécurité que la pièce recommandée par l'usine et dans ce manuel de service, peut provoquer une électrocution, un incendie ou tout autre sinistre.

"COMMENT COMMANDER LES PIECES DE RECHANGE"

Pour que votre commande soit rapidement et correctement remplie, veuillez fournir les renseignements suivants.

- | | |
|---------------------|----------------|
| 1. NUMERO DU MODELE | 2. NO. DE REF |
| 3. NO. DE PIECE | 4. DESCRIPTION |

in **CANADA**: Contact SHARP Electronics of Canada Limited
Phone (416) 890-2100

★ MARQUE: SECTION LIVRAISON DES PIECES DERECHANGE

▲ MARQUE: PIECES RELATIVE AUX RAYONS X

Ref. No.	Part No.	★	Description	Code
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PSPAG0017PEZZ	R	Spacer, x3	AC
QEARC1913PEZZ	R	Grounding Strap	AF

	CRT	DY	SCB51	R659	C610	R520
COMBINATION	A48QAD220X CPJ510CKAY1S	H0147PE H0148PE	V0933CE	0.82ohm 1W	7800P 1.8KV	1.2ohm 1/2W
	A48KRD89X/3E A48KRD89X/4E	H0100ME HA021WJ	V0016PE	0.82ohm 1W	8000P 1.8KV	

PRINTED WIRING BOARD ASSEMBLIES (NOT REPLACEMENT ITEM)

19U-M100

PWB-A DUNTKA358WEX9	—	MAIN Unit	—
PWB-B DUNTKA359WEV2	—	CRT Unit	—

19U-M100S

PWB-A DUNTKA358WEY0	—	MAIN Unit	—
PWB-B DUNTKA359WEV1	—	CRT Unit	—

CU19M10

PWB-A DUNTKA358WEY1	—	MAIN Unit	—
PWB-B DUNTKA359WEV1	—	CRT Unit	—

Ref. No.	Part No.	★	Description	Code
PWB-A:DUNTKA358WEX9(19U-M100)				
PWB-A:DUNTKA358WEY0(19U-M100S)				
PWB-A:DUNTKA358WEY1(CU19M10)				
MAIN UNIT				

TUNER

NOTE: THE PARTS HERES SHOWN ARE SUPPLIED AS AN ASSEMBLY BUT NOT INDEPENDENTLY.

△ TU51	VTUVTST5UF770	J	Tuner	AZ
	or			
	VTUENV56D82-1			

INTEGRATED CIRCUITS

▲△ IC201	RH-iX3354CEN1	J	LA76843N	AT
	IC351	VHiAN7511//-1	J	AN7511
	IC501	VHiLA7840//-1	J	LA7840
△ IC701	VHiTEA1507/-1	J	TEA1507P/N1	AL
△ IC702	RH-FX0034CEZZ	J	PC817	AE
	or			
	RH-FX0002GEZZ			
	or			
	RH-FX0029CEZZ			
IC771	VHiKA7805AP-1	J	KA7805API	AE
	or			
	VHiTA7805S/-1			
IC2001	RH-iX3492CEZZQ	R	TMPA8700CPF	AU
IC2040	VHiPST994C/-1	J	PST994C	AD
IC2101	VHiM24C16B/-1	J	M24C16-BN6	AG
	or			
	VHiBR24C16-1			

TRANSISTORS

Q101	VS2SC945AQ/-1	J	2SC945AQ	AB
	or			
	VS2SC3198Y/-1			
Q201	VS2SC2735//1E	J	2SC2735	AC
Q451	VS2SA812-M51E	J	2SA812	AC
	or			
	VS2SA1530R/-1			
Q452	VS2SA1266-Y-1	J	2SA1266-Y	AA
Q601	VS2SC2482//1	J	2SC2482	AD
△ Q602	VS2SD2586//1E	J	2SD2586	AM
Q631	VS2SC945AQ/-1	J	2SC945AQ	AB
	or			
	VS2SC3198-Y-1			
△ Q701	VSSPP04N60C-1	J	SPP04N60C	AH
	or		(19U-M100, 19U-M100S)	
	VSSPP07N60C-1			
	or			
	VS2SK2708//1E			
	or			
	VS2SK2645//G			
	or			
	VSSTP6NC60+-1			
	or			
	VSSTP6NC60FP			
	or			
	VSSTP7NB60FP			
△ Q701	VS2SK2645++-1	J	2SK2645 (CU19M10)	AN
	or			
	VS2SK2708//1E			
Q702	VS2SC945AQ/-1	J	2SC945AQ	AB
	or			
	VS2SC3198Y/-1			
	or			
	VS2SC1815Y/-1			
Q751	VS2SC945AQ/-1	J	2SC945AQ	AB
	or			
	VS2SC3198-Y-1			
Q752	VS2SC945AQ/-1	J	2SC945AQ	AB
	or			
	VS2SC3198-Y-1			
Q2201	VS2SC1623L61E	J	2SC1623	AB
	or			
	VS2SC3928R/-1			

Ref. No.	Part No.	★	Description	Code
	or			
Q2211	VS2PD601ARQ-1	J	2SC1623	AB
	VS2SC1623L61E			
	or			
	VS2SC3928R/-1			
DIODES				
D52	RH-EX0676GEZZ	J	Zener Diode, 32V	AA
D101	RH-EX0616GEZZ	J	Zener Diode, 5.6V	AA
D352	RH-DX0048GEZZ	J	Diode	AA
	or			
	VHD1SS119//-1			
D353	RH-EX0644GEZZ	J	Zener Diode, 11V	AB
D453	RH-EX0616GEZZ	J	Zener Diode, 5.6V	AA
D455	RH-DX0048GEZZ	J	Diode	AA
	or			
	RH-DX0475CEZZ			
D456	RH-DX0475CEZZ	J	Diode	AB
D457	RH-EX0644GEZZ	J	Zener Diode, 13V	AB
D458	RH-EX0644GEZZ	J	Zener Diode, 13V	AB
D459	RH-DX0048GEZZ	J	Diode	AA
	or			
	VHD1SS119//-1			
D502	RH-DX0131CEZZ	J	Diode	AC
D511	RH-DX0441CEZZ	J	Diode	AC
D632	RH-EX0630GEZZ	J	Zener Diode, 9.1V	AA
D641	RH-EX0630GEZZ	J	Zener Diode, 9.1V	AA
▲△ D651	VHD1SS244//-1	J	Diode	AB
△ D653	RH-EX0667GEZZ	J	Zener Diode, 27V	AA
△ D661	RH-DX0468CEZZ	J	Diode	AE
	or			
	RH-DX0229CEZZ			
	or			
	RH-DX0302CEZZ			
△ D701	RH-DX0490CEZZ	J	Diode	AC
	or			
	RH-DX0154CEZZ			
△ D702	RH-DX0490CEZZ	J	Diode	AC
	or			
	RH-DX0154CEZZ			
△ D703	RH-DX0490CEZZ	J	Diode	AC
	or			
	RH-DX0154CEZZ			
△ D704	RH-DX0490CEZZ	J	Diode	AC
	or			
	RH-DX0154CEZZ			
D705	RH-DX0048GEZZ	J	Diode	AA
	or			
	VHD1SS119//-1			
D707	RH-DX0475CEZZ	J	Diode	AB
	or			
	VHD1SS244//-1			
D708	RH-DX0475CEZZ	J	Diode	AB
	or			
	VHD1SS244//-1			
△ D709	RH-DX0229CEZZ	J	Diode	AF
△ D712	RH-DX0487CEZZ	J	Diode	AC
	or			
	RH-DX0302CEZZ			
	or			
	RH-DX0468CEZZ			
	or			
	RH-DX0487CEZZ			
	or			
	RH-DX0513CEZZ			
D717	RH-EX0616GEZZ	J	Zener Diode, 5.6V	AA
△ D725	RH-DX0131CEZZ	J	Diode	AC
D726	RH-DX0048GEZZ	J	Diode	AA
	or			
	VHD1SS119//-1			
D740	RH-DX0048GEZZ	J	Diode	AA
	or			
	VHD1SS119//-1			
D751	RH-EX0611GEZZ	J	Zener Diode, 5.1V	AA
D752	RH-DX0441CEZZ	J	Diode	AC

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
PWB-A:DUNTKA358WEX9(19U-M100)									
PWB-A:DUNTKA358WEY0(19U-M100S)									
PWB-A:DUNTKA358WEY1(CU19M10)									
MAIN UNIT (Continued)									
D753	RH-DX0441CEZZ	J	Diode	AC	C212	VCEA0A1HW474M	J	0.47 50V EL.	AB
	or				C220	VCKYCY1CB104K	J	0.1 16V Ceramic	AB
△ D757	RH-DX0110CEZZ	J	Diode	AA	C301	VCCCCY1HH220J	J	22p 50V Ceramic	AA
	or				C302	VCKYCY1HB102K	J	1000p 50V Ceramic	AA
△ D758	RH-DX0131CEZZ	J	Diode	AC	C304	VCCCCY1HH220J	J	22p 50V Ceramic	AA
△ VA701	RH-VX0019CEZZ	J	Varistor	AC	C305	VCKYCY1HB103K	J	0.01 50V Ceramic	AA
	or		(19U-M100, 19U-M100S)		C306	VCQYTA1HM103K	J	0.01 50V Mylar	AB
	RH-VX0035CEZZ				C354	VCEA0A1HW225M	J	2.2 50V EL.	AB
	or				C356	VCKYCY1HB332K	J	3300p 50V Ceramic	AA
	RH-VX0048CEZZ				C357	VCEA0A1HW106M	J	10 50V EL.	AB
PACKAGED CIRCUIT					C358	VCEA0A1HW106M	J	10 50V EL.	AB
△ PR702	RMPTP0092CEZZ	J	Packaged Circuit	AH	C361	VCEA0A1CW227M	J	220 16V EL.	AC
X801	RCRSB0001PEZZ	R	Crystal	AL	C401	VCCCCY1HH470J	J	47p 50V Ceramic	AA
	or				C411	VCEA0A1AW108M	J	1000 10V EL.	AC
	RCRSB0205CEZZ				C412	VCKYCY1HB103K	J	0.01 50V Ceramic	AA
FILTER AND COILS					C414	VCEA0A1HW225M	J	2.2 50V EL.	AB
CF2040	RFiLA0099CEZZ	J	Ceramic Filter	AE	C416	VCEA0A1HW105M	J	1.0 50V EL.	AB
L50	VP-DF150K0000	J	Peaking 15μH	AB	C418	VCKYCY1HB103K	J	0.01 50V Ceramic	AA
L201	VP-XF1R2K0000	J	Peaking 1.2μH	AB	C421	VCEA0A1HW106M	J	10 50V EL.	AB
L202	VP-XF1R2K0000	J	Peaking 1.2μH	AB	C451	VCQYTA1HM563K	J	0.056 50V Mylar	AB
L203	VP-XF220K0000	J	Peaking 22μH	AB	C454	VCEA0A1HW475M	J	4.7 50V EL.	AB
L204	RCiLi0632CEZZ	J	IF Coil	AE	C455	VCEA0A1CW226M	J	22 16V EL.	AB
L301	VP-XF150K0000	J	Peaking 15μH	AB	C456	VCEA0A1HW475M	J	4.7 50V EL.	AB
△ L701	RCiLF0078PEZZ	R	Coil	AF	C509	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
	or				C510	VCEA0A1VW477M	J	470 35V EL.	AB
△ L702	RCiLF0069PEZZ	R	Coil (CU19M10)	AF	C512	VCFYSA1JB224J+	R	0.22 63V Mylar	AD
	or				C513	VCFYSA1JB473J	J	0.047 63V Mylar	AC
△ L705	RCiLP0179CEZZ	J	Coil	AD	C514	VCEA0A1EW477M	J	470 25V EL.	AD
L706	RCiLP0197CEZZ	J	Coil	AE	C515	VCEA0A1HW475M	J	4.7 50V EL.	AB
L2040	RCiLB0131CEZZ	J	Oscillation Coil	AE	C516	VCKYCY1HB222K	J	2200p 50V Ceramic	AA
SF201	RFiLC0441CEZZ	J	SAW Filter	AH	C517	VCEA0A1CW226M	J	22 16V EL.	AB
TRANSFORMERS					C520	VCEA0A1HW107M	J	100 50V EL.	AB
△ T601	RTRNZ0731CEZZ	J	Transformer	AG	C530	VCFYFA1HA334J	J	0.33 50V Mylar	AB
	or				C531	VCFYFA1HA564J	J	0.56 50V Mylar	AB
△ T602	RTRNF0213PEZZ	R	H-Volt Transformer	AY	C606	VCKYPA2HB561K	J	560p 500V Ceramic	AA
△ T702	RTRNW0009PEZZ	R	Transformer	AL	C607	VCKYPA1HB472K	J	4700p 50V Ceramic	AA
	or				△ C610	VCFPVC3ZA772H	J	7700p 1.5kV M-Poly.	AD
	RTRNW0003PEZZ					(19U-M100)			
CONTROL					△ C610	VCFPVC3ZA802H	J	8000p 1.5kV M-Poly.	AD
R738	RVR-M4588CEZZ+	R	22k(B) 130V Adj.	AC		(19U-M100S, CU19M10)			
	or				C612	VCFPVC2DB474J	J	0.47 200V M-Poly.	AE
	RVR-M4336CEZZ				C633	VCEA0A1AW337M+	R	330 10V EL.	AC
CAPACITORS					C634	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA
[EL.... Electrolytic, M-Poly.... Metalized Polypro Film]					C635	VCEA0A1HW105M	J	1.0 50V EL.	AB
C51	VCEA0A1AW337M+	R	330 10V EL.	AC	C636	VCQYTA1HM153K	J	0.015 50V Mylar	AA
C53	VCEA0A1HW105M	J	1.0 50V EL.	AB	C637	VCEA0A1CW476M	J	47 16V EL.	AB
C54	VCEA0A1HW475M	J	4.7 50V EL.	AB	C652	VCEA0A1HW475M	J	4.7 50V EL.	AB
C55	VCEA0A1AW107M	J	100 10V EL.	AB	C653	VCEA0A1HW105M	J	1.0 50V EL.	AB
C101	VCEA0A1CW476M	J	47 16V EL.	AB	C661	VCKYPA2HB152K	J	1500p 500V Ceramic	AA
C201	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA	C662	VCEA0A1CW477M	J	470 16V EL.	AC
C202	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA	△ C701	RC-FZ036SCEZZ	J	0.1 AC250V M-Poly.	AC
C203	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA		or		(19U-M100, 19U-M100S)	
C204	VCQYTA1HM223K	J	0.022 50V Mylar	AB		RC-FZ008SGEZZ			
C205	VCKYPA1HB103K	J	0.01 50V Ceramic	AA		or			
C206	VCKYCY1HB102K	J	1000p 50V Ceramic	AA		RC-FZ029CUMZZ			
C207	VCEA0A1CW476M	J	47 16V EL.	AB		or			
C208	VCKYCY1HF103Z	J	0.01 50V Ceramic	AA		RC-FZ028SCEZZ			
C209	VCEA0A1HW105M	J	1.0 50V EL.	AB		or			
C210	VCEA0A1HW474M	J	0.47 50V EL.	AB		RC-FZ016SCEZZ			
					C702	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
					C703	RC-KZ0029CEZZ	J	0.01 AC250V Ceramic	AC
					△ C705	RC-EZ1022CEZZ	J	470 200V EL.	AK
						or			
						RC-EZ0609CEZZ		220 200V EL.	
						or			
						RC-EZ0629CEZZ		220 200V EL.	
					△ C706	RC-KZ0092GEZZ	J	0.0033 AC250V Ceramic	AC
						or			
						RC-KZ021SCEZZ			
						or			
						RC-KZ009SCEZZ			
						or			
						RC-KZ0106GEZZ			
						or			
						RC-KZ0156CEZZ			

Ref. No.	Part No.	★	Description	Code
PWB-A:DUNTKA358WEX9(19U-M100)				
PWB-A:DUNTKA358WEY0(19U-M100S)				
PWB-A:DUNTKA358WEY1(CU19M10)				
MAIN UNIT (Continued)				
△ C708	RC-FZ037SCEZZ	J	0.22 275V M-Poly.	AD
	or		(CU19M10)	
	RC-FZ012SGEZZ			
	or			
	RC-FZ017SCEZZ			
	or			
	RC-FZ029SCEZZ			
C717	VCKYPA2HB472K	J	4700p 500V Ceramic	AB
△ C723	RC-EZ0638CEZZ	J	33 160V EL.	AG
△ C725	RC-EZ0724CEZZ	J	100 160V EL.	AG
C726	VCKYPH3DB561K	J	560p 2kV Ceramic	AC
△ C727	VCKYPA2HB472K	J	4700p 500V Ceramic	AB
△ C730	VCEA0A1CW108M	J	1000 16V EL.	AD
△ C731	VCEA0A1EW227M	J	220 25V EL.	AB
C732	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C735	VCCCPA1HH680J	J	68p 50V Ceramic	AA
C737	VCEA0A1EW226M	J	22 25V EL.	AB
C738	RC-KZ0040CEZZ	J	820p 2kV Ceramic	AD
C739	VCEA0A1HW104M	J	0.1 50V EL.	AB
C740	VCEA0A1EW476M	J	47 25V EL.	AB
C743	VCKYPH3DB561K	J	560p 2kV Ceramic	AC
C750	VCKYPA1HF103Z	J	0.01 50V Ceramic	AA
C752	VCEA0A1CW476M	J	47 16V EL.	AB
C753	VCKYPH3DB561K	J	560p 2kV Ceramic	AC
			(19U-M100, 19U-M100S)	
C754	VCEA0A1CW476M	J	47 16V EL.	AB
C758	VCEA0A2EW106M	J	10 250V EL.	AD
C759	VCKYPA2HB102K	J	1000p 500V Ceramic	AA
C760	VCEA0A1CW108M	J	1000 16V EL.	AD
C771	VCEA0A1CW476M	J	47 16V EL.	AB
C772	VCEA0A1CW476M	J	47 16V EL.	AB
C783	VCQYTA1HM103K	J	0.01 50V Mylar	AB
C801	VCCCCY1HH180J	J	18p 50V Ceramic	AA
C802	VCEA0A1CW106M	J	10 16V EL.	AB
C807	VCKYCY1EF104Z	J	0.1 25V Ceramic	AA
C808	VCEA0A1CW106M	J	10 16V EL.	AB
C809	VCEA0A1HW105M	J	1.0 50V EL.	AB
C811	VCKYCY1CB473K	J	0.047 16V Ceramic	AA
C812	VCEA0A1HW474M	J	0.47 50V EL.	AB
C901	VCEA0A1HW105M	J	1.0 50V EL.	AB
C905	VCEA0A1HW106M	J	10 50V EL.	AB
C2001	VCCCCY1HH101J	J	100p 50V Ceramic	AA
C2002	VCCCCY1HH101J	J	100p 50V Ceramic	AA
C2040	VCEA0A1AW107M	J	100 10V EL.	AB
C2041	VCEA0A1HW105M	J	1.0 50V EL.	AB
C2060	VCKYCY1CB104K	J	0.1 16V Ceramic	AB
C2061	VCKYCY1HB222K	J	2200p 50V Ceramic	AA
C2062	VCEA0A1AW107M	J	100 10V EL.	AB
C2201	VCKYCY1HB682K	J	6800p 50V Ceramic	AA
C2202	VCCCCY1HH560J	J	56p 50V Ceramic	AA
C2601	VCEA0A1HW475M	J	4.7 50V EL.	AB
C2602	VCCCCY1HH101J	J	100p 50V Ceramic	AA

RESISTORS

[M-Ox. ... Metal Oxide, M-Film ... Metal Film]

RJ2	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ4	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ5	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ7	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ8	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ9	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ10	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ12	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ16	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ18	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ19	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ20	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ21	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ28	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
RJ29	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA

Ref. No.	Part No.	★	Description	Code
△ R53	VRS-VV3LB223J	J	22k 3W M-Ox.	AB
R54	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R55	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R56	VRS-CY1JF823J	J	82k 1/16W M-Ox.	AA
R57	VRD-RA2BE563J	J	56k 1/8W Carbon	AA
R101	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R201	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
R202	VRS-CY1JF122J	J	1.2k 1/16W M-Ox.	AA
R203	VRS-CY1JF682J	J	6.8k 1/16W M-Ox.	AA
R204	VRS-CY1JF270J	J	27 1/16W M-Ox.	AA
R205	VRD-RA2BE680J	J	68 1/8W Carbon	AA
R206	VRD-RA2EE151J	J	150 1/4W Carbon	AA
R207	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R208	VRS-CY1JF332J	J	3.3k 1/16W M-Ox.	AA
R209	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
R210	VRS-CY1JF104J	J	100k 1/16W M-Ox.	AA
R211	VRS-CY1JF104J	J	100k 1/16W M-Ox.	AA
R212	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
R215	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
R220	VRS-CY1JF331J	J	330 1/16W M-Ox.	AA
R301	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R302	VRS-CY1JF152J	J	1.5k 1/16W M-Ox.	AA
R353	VRD-RA2BE683J	J	68k 1/8W Carbon	AA
R354	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R355	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R357	VRS-CY1JF822J	J	8.2k 1/16W M-Ox.	AA
R401	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R402	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R403	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R404	VRD-RA2BE102J	J	1.0k 1/8W Carbon	AA
R411	VRS-CY1JF684J	J	680k 1/16W M-Ox.	AA
R412	VRS-CY1JF391J	J	390 1/16W M-Ox.	AA
R413	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R414	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
R421	VRS-CY1JF223J	J	22k 1/16W M-Ox.	AA
△ R451	VRS-SV2HC103J	J	10k 1/2W M-Ox.	AA
R453	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R454	VRD-RA2EE334J	J	330k 1/4W Carbon	AA
R455	VRD-RA2BE392J	J	3.9k 1/8W Carbon	AA
R456	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R457	VRD-RA2BE102J	J	1.0k 1/8W Carbon	AA
R458	VRD-RA2EE334J	J	330k 1/4W Carbon	AA
R460	VRD-RA2BE152J	J	1.5k 1/8W Carbon	AA
R461	VRS-CY1JF184J	J	180k 1/16W M-Ox.	AA
R462	VRS-CY1JF273J	J	27k 1/16W M-Ox.	AA
R495	VRS-VV3DB820J	J	82 2W M-Ox.	AA
R512	VRD-RM2HD102J	J	1.0k 1/2W Carbon	AA
R513	VRD-RM2HD102J	J	1.0k 1/2W Carbon	AA
R514	VRD-RM2HD1R0J	J	1.0 1/2W Carbon	AA
R515	VRS-VV3AB391J	J	390 1W M-Ox.	AA
R516	VRS-CY1JF153J	J	15k 1/16W M-Ox.	AA
R517	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R518	VRS-CY1JF333J	J	33k 1/16W M-Ox.	AA
R519	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R520	VRD-RM2HD1R2J	J	1.2 1/2W Carbon	AA
			(19U-M100S, CU19M10)	
R520	VRD-RM2HD1R5J	J	1.5 1/2W Carbon	AA
			(19U-M100)	
R522	VRD-RA2BE102J	J	1.0k 1/8W Carbon	AA
R523	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA
R525	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R527	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
			(19U-M100)	
R528	VRD-RA2BE272J	J	2.7k 1/8W Carbon	AA
R529	VRD-RA2BE472J	J	4.7k 1/8W Carbon	AA
△ R604	VRS-VV3DB682J	J	6.8k 2W M-Ox.	AA
R605	VRD-RA2BE121J	J	120 1/8W Carbon	AA
R606	VRD-RA2BE102J	J	1.0k 1/8W Carbon	AA
△ R607	VRS-VV3DB682J	J	6.8k 2W M-Ox.	AA
△ R608	VRS-VV3DB391J	J	390 2W M-Ox.	AA
△ R609	VRS-VV3AB562J	J	5.6k 1W M-Ox.	AA
R610	VRD-RM2HD220J	J	22 1/2W Carbon	AA
△ R611	VRS-KA3HG3R3K	J	3.3 5W M-Ox.	AD
R622	VRS-CY1JF222J	J	2.2k 1/16W M-Ox.	AA
R623	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R624	VRN-RA2BK472F	J	4.7k 1/8W M-Film	AA

Ref. No.	Part No.	★	Description	Code	Ref. No.	Part No.	★	Description	Code
PWB-A:DUNTKA358WEX9(19U-M100)					R2024	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
PWB-A:DUNTKA358WEY0(19U-M100S)					R2025	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
PWB-A:DUNTKA358WEY1(CU19M10)					R2026	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
MAIN UNIT (Continued)					R2027	VRD-RA2BE682J	J	6.8k 1/8W Carbon	AA
R634	VRD-RM2HD121J	J	120 1/2W Carbon	AA	R2028	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
R635	VRS-CY1JF332J	J	3.3k 1/16W M-Ox.	AA	R2029	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R636	VRD-RA2EE221J	J	220 1/4W Carbon	AA	R2032	VRD-RA2BE471J	J	470 1/8W Carbon	AA
△ R641	VRS-VV3AB682J	J	6.8k 1W M-Ox.	AA	R2033	VRS-CY1JF684J	J	680k 1/16W M-Ox.	AA
△ R651	VRD-RM2HD270J	J	27 1/2W Carbon	AA	R2034	VRS-CY1JF684J	J	680k 1/16W M-Ox.	AA
△ R653	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA	R2040	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA
△ R654	VRD-RA2BE154J	J	150k 1/8W Carbon	AA	R2041	VRS-CY1JF333J	J	33k 1/16W M-Ox.	AA
△ R655	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA	R2042	VRD-RA2BE101J	J	100 1/8W Carbon	AB
△ R659	VRN-VV3AB2R2J	J	2.2 1W M-Film	AA	R2043	VRD-RA2BE101J	J	100 1/8W Carbon	AB
			(19U-M100)		R2044	VRS-CY1JF683J	J	68k 1/16W M-Ox.	AA
△ R659	VRN-VV3ABR82J	J	0.82 1W M-Film	AA	R2045	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
			(19U-M100S, CU19M10)		R2047	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
△ R661	VRN-VV3ABR47J	J	0.47 1W M-Film	AA	R2048	VRS-CY1JF562J	J	5.6k 1/16W M-Ox.	AA
△ R662	VRD-RA2BE102G	J	1.0k 1/8W Carbon	AB	R2049	VRS-CY1JF333J	J	33k 1/16W M-Ox.	AA
△ R702	RR-DZ0049CEZZ	J	3.9M 1/2W Carbon	AB	R2060	VRS-CY1JF221J	J	220 1/16W M-Ox.	AA
	or				R2061	VRS-CY1JF562J	J	5.6k 1/16W M-Ox.	AA
	RR-HZ0048CEZZ				R2062	VRS-CY1JF183J	J	18k 1/16W M-Ox.	AA
	or				R2063	VRS-CY1JF222J	J	2.2k 1/16W M-Ox.	AA
	VRD-UB2HG395K				R2065	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA
△ R703	VRW-KP3HC1R8K	J	1.8 5W Cement	AC	R2066	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R705	VRN-VV3ABR39J	J	0.39 1W M-Film	AA	R2067	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R706	VRN-VV3ABR39J	J	0.39 1W M-Film	AA	R2068	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R707	VRD-RM2HD270J	J	27 1/2W Carbon	AA	R2070	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R708	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA	R2072	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA
R710	VRS-SV2HC102J	J	1.0k 1/2W M-Ox.	AA	R2101	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R711	VRS-CY1JF334J	J	330k 1/16W M-Ox.	AA	R2102	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R712	VRD-RA2BE100J	J	10 1/8W Carbon	AA	R2201	VRD-RA2BE103J	J	10k 1/8W Carbon	AA
R713	VRS-SV2HC122J	J	1.2k 1/2W M-Ox.	AA	R2202	VRD-RA2BE473J	J	47k 1/8W Carbon	AA
R715	VRD-RA2BE150J	J	15 1/8W Carbon	AA	R2203	VRS-CY1JF332J	J	3.3k 1/16W M-Ox.	AA
R716	VRS-VV3AB121J	J	120 1W M-Ox.	AA	R2211	VRD-RA2BE222J	J	2.2k 1/8W Carbon	AA
△ R721	VRD-RM2HD124J	J	120k 1/2W Carbon	AA	R2212	VRS-CY1JF682J	J	6.8k 1/16W M-Ox.	AA
R722	VRS-CY1JF225J	J	2.2M 1/16W M-Ox.	AA	R2213	VRD-RA2BE223J	J	22k 1/8W Carbon	AA
R723	VRS-CY1JF000J	J	0 1/16W M-Ox.	AA	R2401	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R725	VRS-SV2HC821J	J	820 1/2W M-Ox.	AA	R2402	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R733	VRD-RA2EE394J	J	390k 1/4W Carbon	AA	R2403	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R736	VRD-RM2HD184J	J	180k 1/2W Carbon	AA	R2404	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA
R739	VRD-RM2HD332J	J	3.3k 1/2W Carbon	AA	R2501	VRS-CY1JF123J	J	12k 1/16W M-Ox.	AA
R740	VRD-RM2HD470J	J	47 1/2W Carbon	AA	R2503	VRS-CY1JF273J	J	27k 1/16W M-Ox.	AA
R741	VRN-RA2BK682F	J	6.8k 1/8W M-Film	AA	R2504	VRS-CY1JF123J	J	12k 1/16W M-Ox.	AA
R742	VRD-RM2HD561J	J	560 1/2W Carbon	AA	R2505	VRS-CY1JF563J	J	56k 1/16W M-Ox.	AA
R743	VRD-RM2HD681J	J	680 1/2W Carbon	AA	R2506	VRS-CY1JF563J	J	56k 1/16W M-Ox.	AA
R751	VRD-RA2BE821J	J	820 1/8W Carbon	AA	R2507	VRS-CY1JF823J	J	82k 1/16W M-Ox.	AA
R752	VRD-RA2BE562J	J	5.6k 1/8W Carbon	AA	R2508	VRS-CY1JF153J	J	15k 1/16W M-Ox.	AA
R755	VRD-RM2HD151J	J	150 1/2W Carbon	AA	R2509	VRS-CY1JF272J	J	2.7k 1/16W M-Ox.	AA
△ R758	VRS-SV2HC100J	J	10 1/2W M-Ox.	AA	R2601	VRD-RA2BE331J	J	330 1/8W Carbon	AA
△ R773	VRS-VV3LB270J	J	27 3W M-Ox.	AB	SWITCHES				
△ R774	VRS-VV3LB680J	J	68 3W M-Ox.	AB	S2501	QSW-K0003AJZZ	J	POWER	AB
R801	VRD-RM2HD470J	J	47 1/2W Carbon	AA		or			
R807	VRS-CY1JF272J	J	2.7k 1/16W M-Ox.	AA		QSW-K0079GEZZ			
R808	VRS-CY1JF272J	J	2.7k 1/16W M-Ox.	AA	S2502	QSW-K0003AJZZ	J	VOL-Down	AB
R809	VRS-CY1JF223J	J	22k 1/16W M-Ox.	AA		or			
R810	VRS-CY1JF223J	J	22k 1/16W M-Ox.	AA		QSW-K0079GEZZ			
R901	VRD-RA2BE101J	J	100 1/8W Carbon	AB	S2503	QSW-K0003AJZZ	J	VOL-Up	AB
R902	VRS-CY1JF750J	J	75 1/16W M-Ox.	AA		or			
R906	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA		QSW-K0079GEZZ			
R925	VRS-CY1JF104J	J	100k 1/16W M-Ox.	AA	S2504	QSW-K0003AJZZ	J	CH-Down	AB
R961	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA		or			
R962	VRS-CY1JF101J	J	100 1/16W M-Ox.	AA		QSW-K0079GEZZ			
R2001	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA	S2505	QSW-K0003AJZZ	J	CH-Up	AB
R2002	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA		or			
R2006	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA		QSW-K0079GEZZ			
R2008	VRS-CY1JF472J	J	4.7k 1/16W M-Ox.	AA	MISCELLANEOUS PARTS				
R2009	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA	△ RY701	RRLYJ0081CEZZ	J	Relay	AL
R2010	VRS-CY1JF102J	J	1.0k 1/16W M-Ox.	AA	△ F701	QFS-B4023CEZZ	J	Fuse, 4A/125V	AC
R2012	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA		or			
R2016	VRS-CY1JF223J	J	22k 1/16W M-Ox.	AA		QFS-B4021GEZZ			
R2018	VRS-CY1JF103J	J	10k 1/16W M-Ox.	AA	FH701	QFSDH1013CEZZ	J	Fuse Holder	AC
R2020	VRS-CY1JF223J	J	22k 1/16W M-Ox.	AA	FH702	QFSDH1014CEZZ	J	Fuse Holder	AC
R2022	VRS-CY1JF333J	J	33k 1/16W M-Ox.	AA					
R2023	VRD-RA2BE223J	J	22k 1/8W Carbon	AA					

Ref. No.	Part No.	★	Description	Code
PWB-A:DUNTKA358WEX9(19U-M100)				
PWB-A:DUNTKA358WEY0(19U-M100S)				
PWB-A:DUNTKA358WEY1(CU19M10)				
MAIN UNIT (Continued)				
FB351	RBLN-0091GEZZ	J	Ferrite Bead	AB
	or			
	RBLN-0047CEZZ			
FB601	RBLN-0047CEZZ	J	Ferrite Bead	AB
FB2002	RBLN-0091GEZZ	J	Ferrite Bead	AB
	or			
	RBLN-0037CEZZ			
J951	QJAKF0041CEZZ	J	Jack, A/V-In	AH
P302	QPLGN0261CEZZ	J	Plug, 2-pin(S)	AB
P401	QPLGN0561CEZZ	J	Plug, 5-pin(GBN)	AB
P601	QPLGN0660CEZZ	J	Plug, 6-pin(K)	AC
P651	QPLGN0361CEZZ	J	Plug, 3-pin(TP651-3)	AB
P701	QPLGN0260CEZZ	J	Plug, 2-pin(M)	AC
P751	QPLGN0461CEZZ	J	Plug, 4-pin(YBN)	AB
P2001	QPLGN0561CEZZ	J	Plug, 5-pin(TP2001-5)	AB
RMC2601	RRMCU0232CEZZ	J	R/C Receiver	AG
	or			
	RRMCU0252CEZZ			
JA409	RBLN-0047CEZZ	J	Ferrite Bead	AB
RDA501	PRDAR0297PEFW	R	Heat Sink, for IC501	AD
RDA602	PRDAR0216PEFW	R	Heat Sink, for Q602	AE
RDA701	PRDAR0026PEFW	R	Heat Sink, for Q701	AD
	LX-BZ3100CEFD	J	Screw	AA

Ref. No.	Part No.	★	Description	Code
PWB-B:DUNTKA359WEV2(19U-M100)				
PWB-B:DUNTKA359WEV1(19U-M100S, CU19M10)				
CRT UNIT				
TRANSISTORS				
Q852	RH-TX0110BMZZ+	R	TX0110BM	AC
	or			
	VS2SC2229O/1E			
Q854	RH-TX0110BMZZ+	R	TX0110BM	AC
	or			
	VS2SC2229O/1E			
Q856	RH-TX0110BMZZ+	R	TX0110BM	AC
	or			
	VS2SC2229O/1E			
Q881	VS2SA1266-Y-1	J	2SA1266-Y	AA
	or			
	VS2SA1015-Y-1			
DIODES				
D882	RH-DX0048GEZZ	J	Diode	AA
	or			
	RH-DX0475CEZZ			
D885	RH-DX0475CEZZ	J	Diode	AB
	or			
	RH-DX0048GEZZ			
COIL				
L852	VP-MK820K0000	J	Peaking 82μH	AB
CAPACITORS				
<i>[EL... Electrolytic]</i>				
C851	VCCCCY1HH151J	J	150p 50V Ceramic	AA
C852	VCCCCY1HH151J	J	150p 50V Ceramic	AA
C853	VCCSPA1HL151J	J	150p 50V Ceramic	AA
C854	RC-KZ0029CEZZ	J	0.01 250V Ceramic	AC
	or			
	RC-KZ0160GEZZ			
C883	VCEA0A1CW336M	J	33 16V EL.	AB
RESISTORS				
<i>[M-Ox... Metal Oxide]</i>				
R851	VRS-CY1JF470J	J	47 1/16W M-Ox. (19U-M100S/CU19M10)	AA
R852	VRD-RA2BE181J	J	180 1/8W Carbon	AA
R853	VRS-CY1JF121J	J	120 1/16W M-Ox.	AA
△ R857	VRS-VV3AB123J	J	12k 1W M-Ox.	AA
R858	VRD-RM2HD332J	J	3.3k 1/2W Carbon	AA
R859	VRS-CY1JF470J	J	47 1/16W M-Ox. (19U-M100S/CU19M10)	AA
R860	VRD-RA2BE181J	J	180 1/8W Carbon	AA
R861	VRS-CY1JF121J	J	120 1/16W M-Ox.	AA
△ R865	VRS-VV3AB123J	J	12k 1W M-Ox.	AA
R866	VRD-RM2HD332J	J	3.3k 1/2W Carbon	AA
R867	VRS-CY1JF470J	J	47 1/16W M-Ox.	AA
R868	VRS-CY1JF181J	J	180 1/16W M-Ox.	AA
R869	VRS-CY1JF121J	J	120 1/16W M-Ox.	AA
△ R873	VRS-VV3AB123J	J	12k 1W M-Ox.	AA
R874	VRD-RM2HD332J	J	3.3k 1/2W Carbon	AA
R881	VRS-CY1JF561J	J	560 1/16W M-Ox.	AA
R882	VRS-CY1JF391J	J	390 1/16W M-Ox.	AA
R883	VRD-RA2BE561J	J	560 1/8W Carbon	AA
R884	VRS-CY1JF152J	J	1.5k 1/16W M-Ox.	AA
R886	VRS-CY1JF821J	J	820 1/16W M-Ox.	AA
R887	VRD-RA2BE470J	J	47 1/8W Carbon	AA
R890	VRS-CY1JF470J	J	47 1/16W M-Ox. (19U-M100)	AA
R891	VRS-CY1JF470J	J	47 1/16W M-Ox. (19U-M100)	AA
MISCELLANEOUS PARTS				
P851	QPLGN0561CEZZ	J	Plug, 5-pin(GBN)	AB
P852	QPLGN0461CEZZ	J	Plug, 4-pin(YBN)	AB

Ref. No.	Part No.	★	Description	Code
PWB-B:DUNTKA359WEV2(19U-M100) PWB-B:DUNTKA359WEV1(19U-M100S, CU19M10)				
CRT UNIT (Continued)				
SC851	QSOCV0016PEZZ	R	CRT Socket	AF
	or		(19U-M100S/CU19M10)	
	QSOCV0933CEZZ			
SC852	QSOCV0841CEZZ	J	CRT Socket (19U-M100)	AG
	or			
	QSOCV0840CEZZ			

Ref. No.	Part No.	★	Description	Code
PACKING PARTS (NOT REPLACEMENT ITEM)				
	SPAKC6801PEZZ	—	Packing Case	—
			(19U-M100/100S)	
	SPAKC6802PEZZ	—	Packing Case(CU19M10)	—
	SPAKP0098PEZZ	—	Wrapping Paper	—
	SPAKX2701PEZZ	—	Buffer Material	—
	SSAKA0001PEZZ	—	Polyethylene Bag	—

MISCELLANEOUS PARTS

△ ACC701	QACCD3064CESA	J	AC Cord (AC120V/60Hz)	AM
SP1	VSP0080PBQ9YA	R	Speaker, 32 ohm	AH
	or			
	VSP0080PBP8YA			
	or			
	VSP0080PBQ3YA			
	QCNW-0167MEZZ	J	Connecting Cord	AE
	QCNW-2046PEZZ	R	Connecting Cord	AF
	QCNW-2160PEZZ	R	Connecting Cord	AG
	LHLDK0014PEZZ	R	AC Cord Holder	AD
	LHLDZ0063PEZZ	R	Anode Clamp Holder	AD
	TLABM1829PEZZ	R	Model Label	AB
			(19U-M100/100S)	
	TLABM1906PEZZ	R	Model Label(CU19M10)	
	TLABN0001PEZZ	R	Serial No. Label	AD
	LX-TZ0006PEFD	R	CRT Screw, x4	AD
	LX-WZ0003PEFD	R	CRT Washer, x4	AB
	PSPAG0001PE00	R	CRT Spacer, x4	AB
	XTASD30P12000	J	Screw, x1	AA
	XTASD40P20000	J	Screw, x4	AA
	LX-TZ3004CEFD		Screw	AA
	TCAUH0008PEZZ	J	Caution Card	AB
			(19U-M100/100S)	
	TCAUS0004PEZZ	J	Warning Label(CU19M10)	AD
	TCAUS0013PEZZ	J	Attention Label(CU19M10)	AB

SUPPLIED ACCESSORIES

	RRMCG1324CESA	R	Infrared R/C Unit	AT
	TGAN-0018PEZZ	R	Guarantee Card	AD
			(19U-M100/100S)	
	TiNS-7643PEZZ	R	Operation Manual	AE
			(19U-M100/100S)	
	TiNS-7644PEZZ	R	Operation Manual	AN
			(CU19M10)	

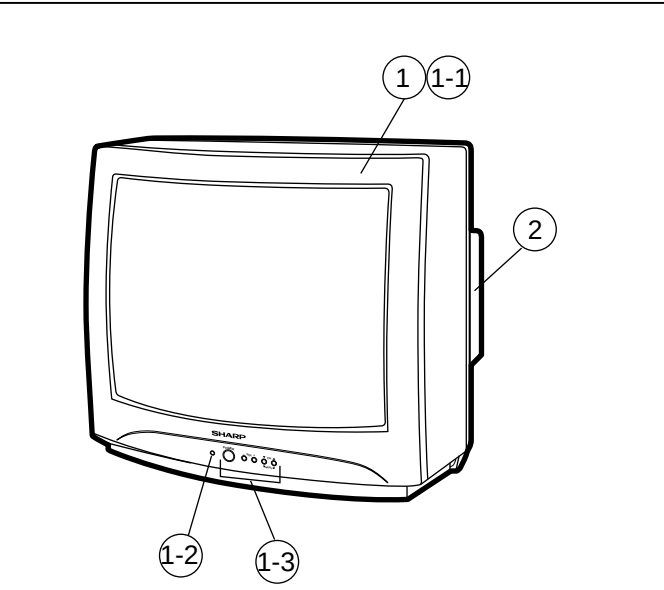
Ref. No.	Part No.	★	Description	Code
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CABINET PARTS

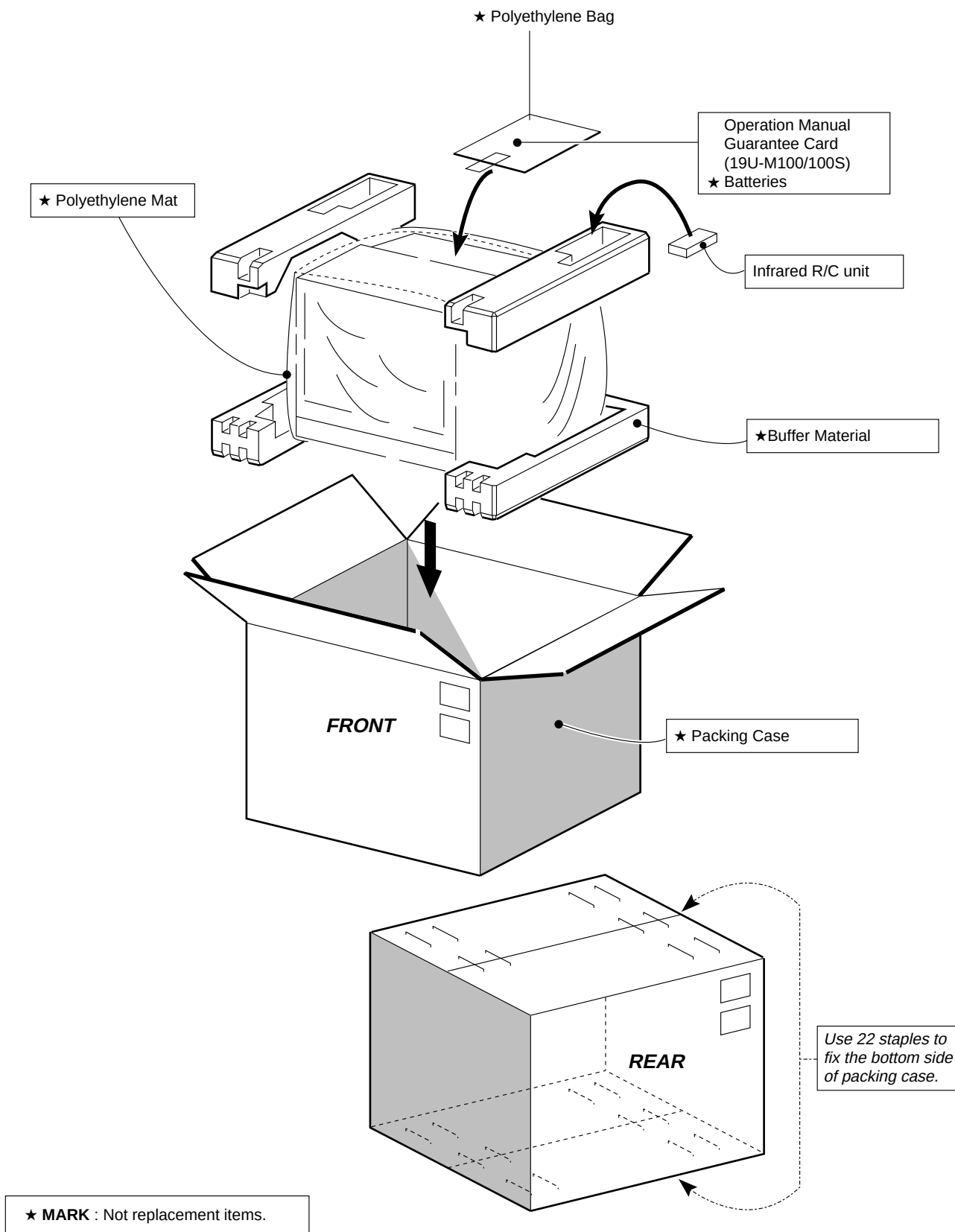
1	CCABA2713WEV0	R	Front Cabinet Ass'y (19U-M100/100S)	BA
1	CCABA2713WEV1	R	Front Cabinet Ass'y (CU19M10)	BA
1-1	Not Available	—	Front Cabinet	—
1-2	GCOVA0069PEKA	J	LED Cover	AD
1-3	JBTN-0243PESB	R	Button(Power, VOL-Up/Down, CH-Up/Down)	AE
2	GCABB2477PEKA	R	Rear Cabinet	AX

Ref. No.	Part No.	★	Description	Code
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CABINET PARTS LOCATION



PACKING OF THE SET



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